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THE

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No. I. July, 1912.

ORIGINAL ARTICLES.

NOTE ON TWO CASES OF GLANDULAR ENLARGEMENT —(I) HODGKIN'S DISEASE; (II) ENDOTHELIOMA.[1]

By WALTER K. HUNTER, M.D., D.Sc.,
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AND

J. H. M'NICOL, M.B., Ch.B.

Case I.—The patient, a boy, æt. 11 years, was in Ward 12 of the Glasgow Royal Infirmary from 4th August, 1911, until his death on 9th November. Six years previously he had suffered from enlarged glands of the neck, but this swelling disappeared and did not return until June, 1911. The glands, however, again became greatly diminished in size, and when he was admitted to hospital in August his complaint was of breathlessness and œdema of the face and legs, and not of the glandular enlargement.

On admission he was very anæmic (red corpuscles were less than 1,000,000), and he had œdema of the dependent parts. Moist râles were present at both bases and at the left apex,

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[1] A communication made to the Medico-Chirurgical Society of Glasgow on 1st March, 1912.

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and during August and September he had severe diarrhœa. There was no enlargement of the liver or spleen.

There was marked improvement in patient's condition during September, and the anæmia became much less marked.

Towards the end of September the glands of neck again became greatly enlarged, and there was definite fever of an irregular type. The enlarged glands were soft and elastic, and were quite freely movable in the surrounding connective tissue.

By the middle of October the anæmia and the œdema had greatly increased. He became rapidly worse and died on 9th November.

Post-mortem examination.—The body was very anæmic with œdema of the dependent parts. There were large glandular masses on both sides of the neck and small masses in both axillæ: the glands, while matted together, were distinct from one another. In consistence they were slightly firmer than normal glands.

The prevertebral glands and those at the root of the mesentery were much enlarged, and one or two had yellowish areas suggestive of chronic fibrous tubercle. The enlarged glands had a very pale greyish-white colour and appeared like simple hyperplasia.

Lungs showed some collapse and emphysema.

The other organs were atrophied and anæmic.

Microscopical examination.—The gland structure (Fig. 1) was totally lost and the capsule was fibrosed. There was a definite increase in the fibrous reticulum of the gland, and the cells of this reticulum had long protoplasmic processes. In its meshes were numerous cells of various types consisting of lymphocytes, endothelial cells, eosinophiles, large mononuclear cells, and multinuclear giant cells. These cells were present in no definite arrangement, but filled up the spaces in a haphazard manner.

The endothelial cells were considerably larger than lymphocytes, and each had a pale reticular nucleus and considerable cell protoplasm. The multinuclear cells were of two kinds: the first had a number of nuclei heaped in the middle of the cell; these nuclei were usually about four in number and did not stain deeply. In the second form the nuclei were found round the periphery of the cell like a circle or horseshoe, and they stained deeply.

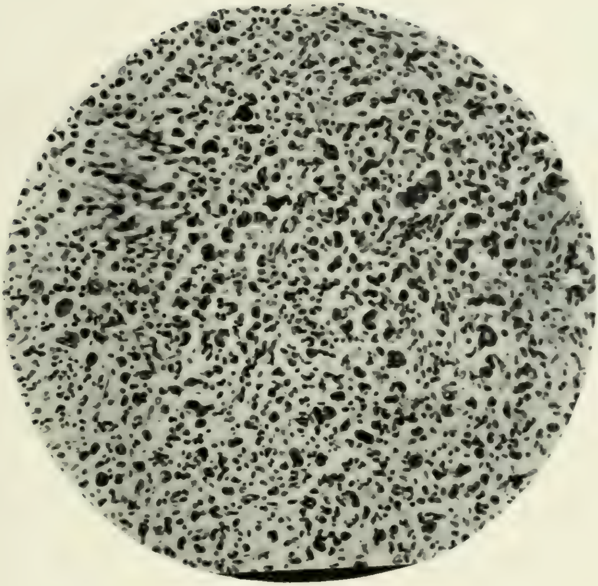

Fig. 1 (Case I).

Hodgkin's Disease.

Showing increase in endothelial cells, and the giant cells (multinucleated).

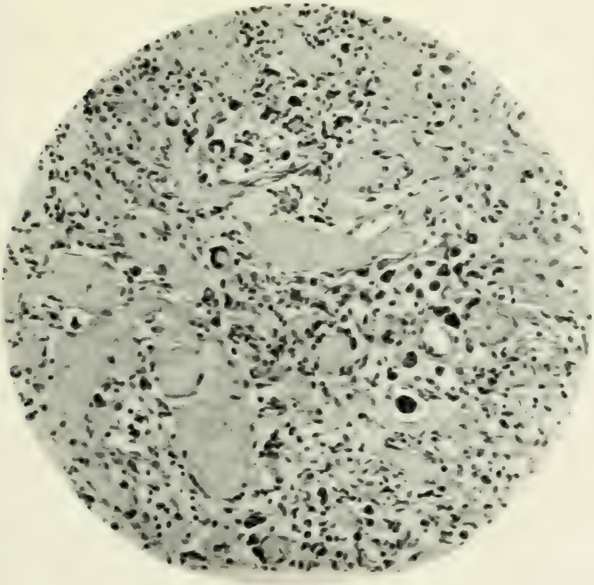

Fig. 2 (Case I).

Hodgkin's Disease.

Masses of stroma showing hyaline degeneration. Characteristic giant cells.

To illustrate Prof. Hunter and Mr. M'Nicol's communication.

All the glands examined had practically the same histological structure. In one or two the overgrowth of connective tissue was more marked, but in none was it so abundant that it could be termed a fibrosed gland. In several of the sections small necrotic areas were found, and here and there small masses of fibrin, while in one gland (Fig. 2) there were large homogeneous masses of irregular shape, but with no nuclei. These probably were due to hyaline degeneration of the stroma—they were neither necrotic nor amyloid degeneration.

Spleen was definitely fibrosed, and the Malpighian bodies were small, with very little lymphoid tissue in them. In one or two there were a few giant cells and a number of endothelial cells. Sections of liver, heart, lung, and kidney corroborated what was found on macroscopic examination.

This case, then, is undoubtedly one of Hodgkin's disease, and its chief interest lies in the fact that on admission to hospital it had none of the characteristic signs of that disease. The outstanding feature was a profound anæmia which was thought to be secondary to some form of tuberculosis. Histologically it is of interest as a comparison with Case II.

Case II.—This patient was a man, æt. 43 years, and he was in Ward 12 of the Glasgow Royal Infirmary from 28th July, 1911, until he died on 18th November. The history of the illness is as follows:—

Three years ago he received a blow on the left side of the head, and three days later a swelling appeared on that side of the neck. The swelling increased in size for about four weeks and then lessened so much that it was not certain that it had not entirely disappeared. A year ago the swelling again appeared, and since then it had been gradually getting larger; six months ago a swelling appeared on the right side of the neck. During the past six months there had been difficulty in speaking and in swallowing.

On admission to hospital there were masses of enlarged glands on both sides of the neck (Figs. 3 and 4). The mass on the right side was fairly movable, but that on the left side was firmly bound down to the underlying structures, and the glands were all matted together. There was a large swelling in the posterior wall of the pharynx pushing the soft palate forwards, and the patient had difficulty in putting out his tongue and in swallowing, though there was no dyspnœa. There was definite limitation of movement of the head in all directions, and the jaws could only be separated about 1 inch.

The heart and lungs were normal, and the liver and spleen were not enlarged.

On two occasions, once in August and once in September, glands were excised and were reported as showing on microscopic examination chronic lymphadenitis, with granulation tissue, fibrosis, and foci of polymorphonuclear leucocytes. About the beginning of September a course of fibrolysin injection was commenced and continued for several weeks, and by the beginning of October the glands were much smaller. They soon, however, enlarged again and the patient emaciated rapidly and lost strength. He died on 18th November.

All the time he was in hospital there was some slight fever, usually under 100° F., and only once reaching 101° F. There was a leucocytosis ranging between 14,000 and 22,000.

Post-mortem examination.—At the *post-mortem* examination there was seen to be an enormous collar of glands on both sides of the neck, extending from the ears to the clavicles. There was no enlargement of the glands in the axillæ, and the glands in the groin were only perceptible owing to the emaciation, but they were not enlarged. The enlargement in the neck was due to great masses of enlarged lymphatic glands matted together, the whole bulk of them being nearly as big as a man's head. The glands were of a yellowish-white colour, very clear and translucent but not gelatinous, and in numerous places there were caseous-looking areas of opaque yellow colour.

The older glands pressed hard up against the base of the skull and pushed the pharynx forward, almost occluding its lumen. The pharynx and œsophagus were compressed, but there was no invasion of their walls by the growth. On incision of the tumour mass on each side of the neck, it was seen to be absolutely confined to the glands. The capsule of each gland was quite intact, and all the glands were bound together by simple fibrous adhesions which could be readily broken down. The other tissues were not infiltrated by the growth but were simply pushed aside. The tonsils were quite small and normal looking.

The heart was emaciated and there was diffuse arteriosclerosis of the vessels. In both lungs there were early patches of pneumonia.

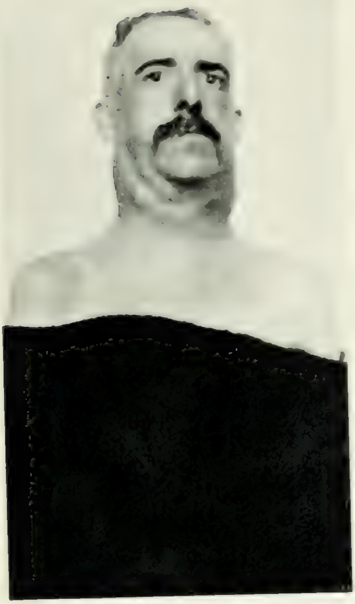

FIG. 3 (Case II).

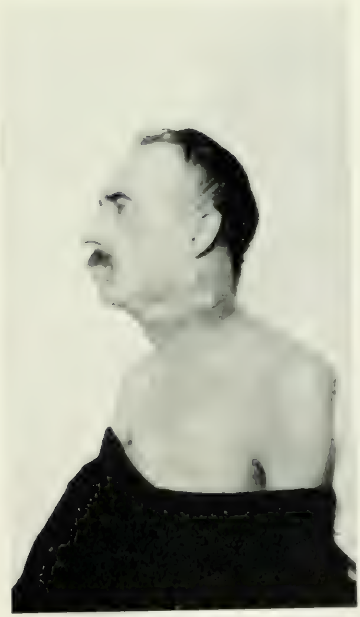

FIG. 4 (Case II).

To illustrate Prof. Hunter and Mr. M'Nicol's communication.

The spleen was empty and fibrous, and the liver contained numerous clear yellowish-white nodules with caseation, rather like early gummata. Cortex of each kidney was narrowed, and the surfaces were rather granular. Bone marrow was in a state of gelatinous degeneration. Brain was soft and œdematous, and the pituitary body was not enlarged.

Microscopical examination of the glands (Figs. 5 and 6) showed quite a definite fibrous thickening of the capsules. The normal lymphatic tissue had been completely destroyed, and there was a very definite increase in the stroma of the gland, both in the trabeculæ and in the fine reticular connective tissue, the whole forming a coarse reticulum in the meshes of which were the more cellular elements. The cells of the fibrous reticulum had spindle-shaped nuclei and long protoplasmic processes, and there were all forms graduating from endothelial to typical connective tissue cells.

In the alveoli the tissue looked rarefied, and this was probably due to œdema having caused swelling and destruction of the protoplasm of the endothelial cells, leaving the nuclei lying in clear unstained spaces. In places this œdematous appearance was not present, and then the endothelial cells for the most part were fairly uniform in shape and size. They contained fairly large reticulate nuclei embedded in a hyaline protoplasm, and the chromatin knots could be easily seen in many of the nuclei. Here and there were isolated cells so large as to constitute giant cells, and their nuclei were about four times the size of those of the surrounding cells and were oval and deeply stained. The nuclei were surrounded by a fair amount of hyaline protoplasm. None of them was multinuclear: they were very large endothelial cells. Scattered through this tumour were numerous lymphocytes. There were no well-formed vessels in the tumour, only a few capillaries and arterioles with very thin walls.

All the glands examined showed very similar structure.

The nodules in the liver were chronic abscesses with definite polymorph infiltration.

The other organs examined microscopically corroborated what was found on macroscopic examination.

Remarks.—The histological diagnosis of this second case is a matter of considerable difficulty, and there are a number of tumour growths with which it has some points of resemblance.

On comparing the macroscopic and microscopic appearances of Case II with those of Case I, there is found to be much in common. In both there is a marked increase in the recticular connective tissue, forming a more or less alveolar structure in which are placed in a haphazard sort of manner numerous endothelial cells. The spread from gland to gland and the binding of the diseased glands together by simple fibrous adhesions is found in both, although in Case II there is no evidence of any spread from the glands of the neck to other groups of glands. These appearances might suggest a diagnosis of Hodgkin's disease in both cases; but in Case II there are none of the multinucleated cells so characteristic of Hodgkin's disease, and there is much more uniformity in the size of the cells composing this tumour growth than in Case I.

There is, however, a form of sarcoma which occurs primarily in glands in which there is considerable variety in the size and shape of the cells, and which can neither be called round-celled nor spindle-celled sarcoma. The arrangement of the cells is just as haphazard as in the present tumour, and a more or less alveolar structure is often seen depending on the degree of development of the interstitial tissue. When the stroma overgrowth is in any way marked the cells become flattened by mutual pressure, and resemble endothelial cells. The histological picture of such a sarcoma is very similar to what is present in this glandular tumour under consideration; but there are usually none of the very large endothelial cells, and the thin-walled, ill-formed blood-vessels are much more numerous. The mode of growth, too, is entirely different. The sarcoma may start primarily in a lymphatic gland, but very soon it infiltrates through the capsule and spreads in the surrounding tissues, while metastatic growths occur early. There is practically none of the lymphatic spread from gland to gland as in Case II, and the increase in size of the tumour is much more rapid than was present in this case.

No primary focus of carcinoma was found *post-mortem* in Case II, so that secondary carcinoma of the glands may be dismissed.

The endothelioma may be said to be intermediate between connective tissue and epithelial growths. While in a genetic sense it resembles the first group, and is often regarded as a sub-division of sarcoma, its morphology is such as to bring it nearer the carcinomas. We term endothelium those cells, usually of the squamous type, which line the blood- and lymph-vessels, the lymph clefts of the connective tissue, and

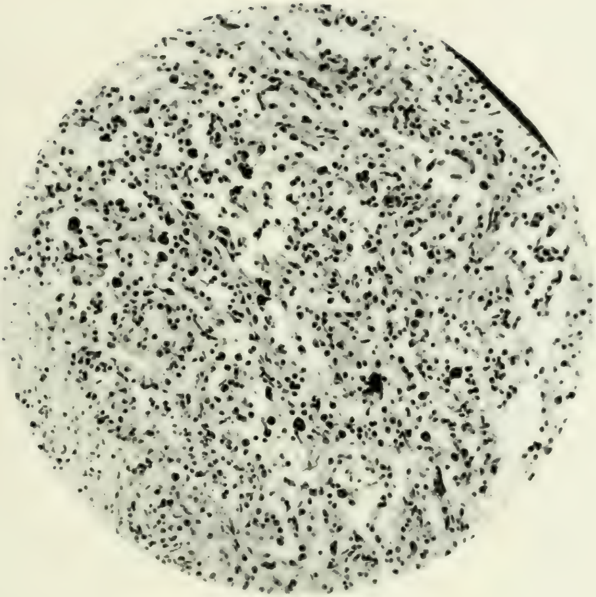

FIG. 5 (Case II).

Showing increase in connective tissue, numerous endothelial cells, and a few very large mononucleated cells.

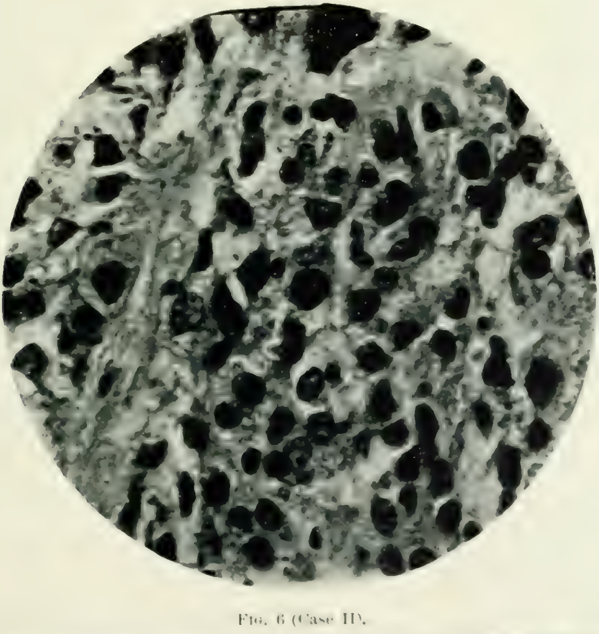

FIG. 6 (Case II).

Gland showing increase in connective tissue, very numerous endothelial cells, and one very large mononucleated cell (endothelial).

To illustrate Prof. Hunter and Mr. M'Nicol's communication.

the serous cavities of the body; and an endothelioma may arise either from the lining of a blood-vessel or of a lymph space. The microscopical picture is extremely variable. It may approach the type of true epithelioma or carcinoma; on the other hand, the structure may be so diffuse as to render the distinction from alveolar sarcoma difficult, and in many cases it is quite impossible to trace the origin of the tumour to the endothelial cells of a vessel or lymph space. In these tumours there is, as a rule, a close connection between the cells of the tumour parenchyma and those of the tumour stroma. This is shown by the presence of protoplasmic processes, and by the presence of slender intercellular substances composed of these cell processes. This gives, on histological examination, an appearance such as is present in Case II, namely, a reticulum of connective tissue of rather loose structure, in the meshes of which are scattered numerous endothelial cells showing considerable variation in size, and with few ill-formed vessels.

Dr. Hastings Gilford[1] has described three cases of endothelioma (or potato tumour) of the neck. Each of those tumours arose from the carotid body at the bifurcation of the common carotid artery, and from that situation pushed its way both backwards and forwards beneath the sterno-mastoid muscle, assuming the shape of a kidney potato. In each of the cases the histological structures were similar to what is seen in the glands in Case II. They are composed of (1) loose strands of embryonic connective tissue so arranged as to form a course reticulum; (2) cells of a rounded or oval shape arranged in an indefinite alveolar manner, regular in size and shape, and containing large reticulate nuclei; (3) isolated cells so large as to constitute giant cells, only each with just one nucleus. In these cases of "potato neck," however, there is no affection of the lymphatic glands. Arising from the carotid body, the tumour grows rapidly as a continuous, very firm nodular mass, showing no tendency to cause enlargement of the adjacent glands—only pushing them aside, and there is no tendency to the production of secondary tumours.

It is difficult, therefore, to classify this growth in Case II. It might be grouped with either Hodgkin's disease, sarcoma, or endothelioma, but, histologically, it resembles most closely those cases of potato tumour of the neck. It differs from them in being a glandular tumour, while they are outwith the glands altogether. But there is no reason why an epithelioma should not arise primarily in a lymphatic gland from the endothelial cell lining of the lymph sinuses, spread from gland to gland, forming a definite tumour of local malignancy. It may be said that its origin from such endothelium cannot be traced, but such often is the case in endothelial tumours[1] arising even from the endothelium of vessels; and so in this case (II) we are disposed to regard it as a primary endothelioma of the glands of the neck.

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[1] *Practitioner*, December, 1904, p. 729.

THE ALBUMEN-REACTION OF THE SPUTUM IN PULMONARY TUBERCULOSIS.[2]

By R. SPEIRS FULLARTON, M.A., M.D., F.R.F.P.S.G.,
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THE following investigation was undertaken with a view to ascertaining the reliability of the so-called "albumen-reaction" of the sputum as a test in diseases of the respiratory system, and in the hope that, if found reliable, the reaction would prove useful in the diagnosis of tubercular disease of the lungs.

In July, 1909, Roger and Levy-Valensi[3] communicated to the Société Médicale des Hôpitaux de Paris the results of their examination of the sputum for albumen in 71 cases of various pulmonary diseases.

The method employed was to take a small quantity of sputum, mix it with water, add a few drops of acetic acid in order to coagulate mucin and nucleo-albumen, filter, and test the filtrate for albumen, either by heat or by means of a concentrated solution of ferrocyanide of potash. Of the cases examined, 32 were cases of pulmonary tuberculosis, including 1 acute case, 1 in the first stage of the disease, 16 in the second, and 14 in the third stage, *i.e.*, presenting cavities. In every case the sputum contained albumen. Five cases of acute bronchitis were examined, in none of which was albumen found. Out of 15 cases of chronic bronchitis, 4 showed albumen in the sputum, and 11 none. In 3 of the 4 positively reacting cases, the occurrence of hæmoptysis and the fact of emaciation rendered a diagnosis of tuberculosis probable, though tubercle bacilli were not found. In 2 cases of bronchitis, associated with cardiac disease, albumen was present, and in 2 it was absent. In 3 cases, where bronchitis occurred in the course of acute or chronic nephritis, albumen was present in the sputum. In 3 cases of acute pulmonary congestion albumen was present; in 2 it was absent. In 2 cases of broncho-pneumonia albumen was present. In 4 cases of lobar pneumonia during the febrile stage it was present, but disappeared two or three days after defervescence.

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[1] Dürck, *Atlas of Pathological Histology*, p. 343.

[2] Read at a meeting of the Medico-Chirurgical Society of Glasgow held on 19th January, 1912.

[3] "Analyse chimique des expectorations: applications au diagnostic," by Roger et Levy-Valensi, *Bulletins et Mémoires de la Société Médicale des Hôpitaux de Paris*, 29th July, 1909, No. 27.

From these observations the authors concluded that the absence of albumen from the sputum warrants the rejection of the diagnosis of tuberculosis; that an albuminous transudation is present in tuberculosis, and in the acute affections of the respiratory passages—pulmonary congestion, broncho-pneumonia, pneumonia; that it is constantly absent in acute bronchitis; that in the symptomatic bronchitis of renal affections there is not merely a simple secretion by the mucosa, that as in ordinary bronchitis, but a true transudation; and in cardiac cases one sometimes sees a true bronchitis—that is, a mucous secretion, and sometimes a serous transudation.

At a later meeting of the same Society (October, 1909), Roger[1] referred to 46 new observations, made partly by himself and partly by Mdlle. Vourmann, upon the sputa of tuberculous patients. In every case albumen was present, and in several cases served to clinch a doubtful diagnosis, or led to a more careful examination, resulting in the finding of a tuberculous lesion before undetected.

Dr. Mdlle. Vourmann,[2] in a Paris *Thesis*, 1909, maintained that the examination for albumen in the expectoration was of diagnostic importance, and should be regularly carried out. Especially was it of significance in the differential diagnosis between tuberculosis and simple bronchitis, since the absence of albumen in the sputum enabled one with certainty to exclude the diagnosis of tuberculosis. In acute or chronic bronchitis, as also in emphysema, the albumen reaction was either completely negative or insignificant and transient, as also in heart and kidney diseases. In pulmonary inflammation albumen was present in the spit during the whole acute stage, while during convalescence it pointed to a new focus or a complication.

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[1] "L'albumino-réaction des crachats tuberculeux," by H. Roger, *Bulletins et Mémoires de la Société Médicale des Hôpitaux de Paris*, 21st October, 1909, No. 30.

[2] "La reserche d'albumine dans les expectorations," par le Dr. Mdlle. Vourmann; *Thèse de Paris*, 1909 (abstract in Schmit's *Jahrbuch*, 1910, vol. 307, p. 251).

In April, 1910, there was published in *Le Progrès Médicale* a paper by Cornu[1] on the albumen-reaction in the diagnosis of pulmonary tuberculosis in asylum practice. The method of examination was the same as that recommended by Roger and Levy-Valensi.

Cornu's examinations were made in 54 cases, with the following results:—In 24 cases the albumen reaction was positive. Of these 20 were manifestly bacillary, including 6 with discrete lesions, 7 in the period of infiltration, and 7 in that of excavation. In 3 cases tuberculosis was suspected on ordinary clinical examination, the patients having had repeated attacks of bronchitis, and being emaciated, in poor general condition, and lacking appetite for food; but it was difficult to be clinically certain of tuberculosis at the moment of examination. The diagnosis of tuberculosis in the remaining case was doubtful.

In 26 cases the reaction was negative. Of this number 10 appeared clinically healthy, and 16 had simple bronchitis, acute or chronic, with emphysema or catarrh, but in none did the general or local examination suggest tuberculosis.

Cornu had not occasion to experiment on other acute affections of the lung (broncho-pneumonia, pneumonia, pleurisy with effusion). Outside, therefore, of cardiac or renal complications albumen seemed to be the rule in cases of tuberculosis, and its absence appeared to warrant the rejection of this diagnosis.

Cornu dealt only with the qualitative examination, but thought that the coagulum of albumen appeared more quickly and was denser in the rapidly advancing forms of tuberculosis. He stated, however, that M. Oddo had made qualitative estimations, and found that the amounts of albumen varied from 1·5 to 5 grammes per litre, and that the proportion of globulin increased with the gravity of the case.

Grantz and Hertz,[2] in a recent number of the *Berliner*

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[1] "L'albumino reaction des crachats dans le diagnostic de la tuberculose pulmonaire en psychiatrie, par le Dr. Edmond Cornu (de Marseille), *Le Progrès Medicale*, 9th April, 1910.

[2] "Ueber die Eiweiss-reaktion in Sputum und ihre praktische Bedeutung," by Gantz & Hertz, *Berl. klin. Wochen.*, 1911, Bd. 48, S. 285 (abstract in *Zeit. f. Kinderheilk. u. d. Referate*, 6th May, 1911, Bd. 1, H1.).

Klinische Wochenschrift, states that they found the albumen reaction positive in inflammatory conditions or œdema of the lungs. They considered the reaction as of special significance in the differential diagnosis between pulmonary tuberculosis and bronchitis, since in the former it was always positive, and in the latter negative.

The method followed in the present investigation was practically the same as that employed by the observers above named. A fair quantity, preferably from 20 to 30 c.c. of sputum, is taken. To it are added 50 per cent of water, and from 10 to 15 drops of dilute acetic acid, and the whole is then thoroughly shaken till as homogeneous a mixture as possible is obtained. The measuring, dilution, acidulation, and mixing are conveniently affected in a graduated sputum-flask, with screwed-on, rubber-lined, metal lid. The mixture is then filtered. In many instances a clear filtrate is obtained at once; in others, only after repeated filtering. To the clear filtrate a few drops of acetic acid are added in order to precipitate any mucin or nucleo-albumen which may have escaped precipitation by the first acidulation. If any cloudiness appears, the fluid is refiltered; but this is seldom necessary. The clear filtrate is then tested for albumen by four different tests, viz., heat, nitric acid, 5 per cent solution of ferrocyanide of potash, and saturated solution of picric acid. These tests are applied exactly as for the detection of albumen in a clear urine. In applying the heat test it was often found that the albumen present was in the form of acid-albumen, and was not coagulated by boiling until the acidity of the fluid was neutralised by the addition of a few drops of liquor potassæ. In no case was albumen reckoned present unless it was revealed by all four tests.

In every case the sputum, besides being tested for albumen, was also examined for tubercle bacilli. In almost every case in which bacilli were found, they were found without difficulty on the first examination. In only three cases in which the first examination gave a negative result did a subsequent examination yield a positive result.

The 100 cases observed fall into three classes—(1) Cases of phthisis in which tubercle bacilli were found; (2) cases in which tubercle bacilli were not found, but the history, symptoms, and physical examination rendered the diagnosis of phthisis reasonably certain; (3) cases in which, on clinical grounds, phthisis could be reasonably excluded.

As to the sputum, the following points were noted :—

1. Its character, whether mucous, muco-purulent, or purulent. This seemed a point of some importance, as it appeared reasonable to suppose that an expectoration which was in any marked degree purulent would be likely to contain albumen, and to contain it in larger amount than would a mucous, non-purulent sputum. It seems a defect in the French observations referred to that no mention is made of the characters of the sputa examined.

2. The amount of albumen found in the sputum. This is indicated approximately by the terms abundant, moderate, slight, a trace, and nil.

The results are summarised in the accompanying tables (p. 13).

Further, a comparison between the phthisical cases in Table I, and the non-phthisical cases in Table II, shows—

	Phthisical Cases.	Non-phthisical Cases.
Albumen absent or inconsiderable,	4 cases = 8 per cent.	35 cases = 70 per cent.
,, in considerable quantity,	46 ,, = 92 ,,	15 ,, = 30 ,,
	50	50

It may be objected that the great majority (92 per cent) of the phthisical sputa examined were muco-purulent or purulent, while of the non-phthisical sputa only 72 per cent presented these characters, and that this might account for the difference in the amount of albumen present. But if in each table the purulent and muco-purulent sputa alone are considered, the following results are obtained :—

	Sputa Purulent or Muco-purulent.	Albumen Considerable.	Albumen Absent or Slight.
Phthisis, . . .	46 cases.	44 cases.	2 cases.
Not phthisis, . .	36 ,,	13 ,,	23 ,,

Comparison of the two sets of cases therefore shows—

	Phthisical Cases.	Non-phthisical Cases.
Albumen absent or inconsiderable in	4·4 per cent.	64 per cent.
,, considerable in . .	95·6 ,,	36 ,,

From this it appears that the presence of albumen, at anyrate in other than trifling quantities, does not depend solely on the muco-purulent character of the sputum, but must be determined also by some other factor or factors.

TABLE I.—CASES OF PHTHISIS.

Number of Cases.	Stage of Disease.			Character of Sputum.			Albumen.					Tubercle Bacilli.	
	Early.	Moderate.	Advanced.	Mucous.	Muco-Purulent.	Purulent.	Abundant.	Moderate.	Slight.	Trace.	Nil.	Found.	Not Found.
35	7	13	15	1	32	2	21	13	1	...	...	35	...
15	6	4	5	3	8	4	6	6	1	...	2	...	15
50	13	17	20	4	40	6	27	19	2	...	2	35	15

which shows—

Albumen absent in . . . . . . 2 cases = 4 per cent.
,, present in inconsiderable quantity in 2 ,, = 4 ,,
,, ,, considerable ,, 46 ,, = 92 ,,

TABLE II.—CASES OTHER THAN PHTHISIS.

Number of Cases.	Disease.	Character of Sputum.			Albumen.				
		Mucous.	Muco-Purulent.	Purulent.	Abundant.	Moderate.	Slight.	Trace.	Nil.
2	Cardiac disease, . .	1	1	...	...	...	1	...	1
1	Cancer of stomach, . .	...	1	...	...	...	...	1	...
1	Pernicious anæmia, . .	...	1	...	...	...	...	...	1
9	Pneumonia, . . .	1	8	...	3	3	1	1	1
1	Bronchiectasis, . .	...	...	1	1	...	...	...	...
3	Acute bronchitis, . .	1	2	...	1	...	1	...	1
33	Chronic bronchitis, . .	11	19	3	2	5	5	9	12
50		14	32	4	7	8	8	11	16

thus showing—

Albumen absent in . . . . . . 16 cases = 32 per cent.
,, present in inconsiderable quantity in 19 ,, = 38 ,,
,, ,, considerable ,, 15 ,, = 30 ,,

Again, if in each table the mucous sputa alone be considered, the following results are obtained:—

	Mucous Sputa.	Albumen Considerable.	Albumen Absent or Slight.
Phthisis, . . .	4 cases.	2 cases.	2 cases.
Not phthisis, . .	14 ,,	2 ,,	12 ,,

Comparison of the two sets showing—

	Phthisical Cases.	Non-phthisical Cases.
Albumen absent or inconsiderable in	50 per cent.	86 per cent.
,, considerable in . .	50 ,,	14 ,,

Here the high percentage of albumen-free sputa in non-phthisical cases is of interest as compared with the much smaller percentage in phthisical cases: but the number of the latter is too small to permit of any general conclusion being drawn. This is to be regretted, as the albumen-reaction would be a more valuable test were it proved to yield positive results, not only in advanced phthisis with muco-purulent sputa, but also in early cases with few physical signs and a mucous expectoration, apparently free from bacilli.

If, finally, the cases be grouped according to the amount of albumen present in the sputa, the following results appear:—

With considerable albumen—

Table I, . . . 46 cases of phthisis = 75 per cent.
Table II, . . . 15 ,, not phthisis = 25 ,,

With little or no albumen—

Table I, . . . 4 cases of phthisis = 10 per cent.
Table II, . . . 35 ,, not phthisis = 90 ,,

The results obtained suggest the following conclusions:—

1. In the great majority of cases of pulmonary tuberculosis the expectoration contains albumen in considerable amount: but in a small proportion of cases little or no albumen is found.

2. In acute bronchitis and pneumonia during the febrile stage, in most cases of pneumonia during the stage of resolution, and in bronchiectasis, albumen is present in the sputum in considerable amount.

3. In cases of bronchial catarrh, in cases of acute bronchitis during the stage of convalescence, in a few cases of resolving pneumonia, and in most cases of chronic bronchitis, whether accompanied or not by asthma or emphysema, the expectoration contains little or no albumen. In a small proportion

of cases of chronic bronchitis albumen is present in considerable amount.

4. In cases other than acute (febrile) bronchitis, pneumonia, and bronchiectasis, the finding of albumen in considerable quantity in the sputum is, therefore, suggestive of the existence of pulmonary tuberculosis, though it cannot be held to prove it.

5. On the other hand, the absence of albumen from the sputum, or its presence in inconsiderable quantity, suggests, but does not establish, a negative diagnosis.

6. The albumen-reaction is, therefore, not entirely reliable as a test in diseases of the respiratory system, and is of only limited value in the diagnosis of tubercular disease of the lungs.

THE EFFECTS OF CHLOROFORM.[1]

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The choice of a subject for this paper which I am giving you this evening was in some respects a difficult matter, and it may appear to you that the title, "Effects of Chloroform," suggests something much more closely allied to surgery than physiology. This is not actually the case, for, although the subject is not of physiological interest alone, much of the best work on the subject has been done by physiologists. In the immediate and remote effects, which I wish to refer to, I have no intention of entering into details as to the condition of the pupil, &c., such as are ordinarily taught in classes of clinical surgery: but wish to indicate to you more particularly the effects of the drug upon the tissues, and upon metabolism and excretion. In many respects a more complete knowledge of these effects is necessary in practical medicine and surgery than is popularly taught, and it is with the purpose of introducing to your notice some of the less well known older work on the subject and the recent work, part of which has been done in the physiological department here, that I venture to come before you.

In considering the effects of chloroform upon any animal there are a number of points to which we must direct our attention. Foremost of these is the question, "How does the drug reach the tissues?"

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[1] A lecture delivered to Queen Margaret College Medical Club on 15th January, 1912.

In the great majority of cases chloroform is administered in the form of an inhalation—the vapour of the anæsthetic being inspired along with air. Thus the chloroform-air mixture passes to the lungs, and in due course a dilute mixture comes in contact with the rich plexus of blood-vessels coursing along the alveolar walls. Here the oxygen enters into a loose chemical relationship with the hæmoglobin, and is thus carried to the tissues. The fate of the chloroform is not so clearly defined, for, whereas it seems proved beyond question that the larger part of what is absorbed is carried by the red corpuscles, the plasma contains, according to Nicloux,[1] more than 12 per cent of the total chloroform in the blood.

Then there is the question, "What particular element in the corpuscles and plasma does the chloroform form loose compounds with?" for the compounds must be loose if the blood is to pass the chloroform on to the tissues. Here, again, we have some difference of opinion. Some (Moore and Roaf)[2, 3] hold that the proteins form unstable compounds with the chloroform. They argue that "since proteins build up the living protoplasm, chloroform and other anæsthetics must form similar unstable compounds with protoplasm, and that anæsthesia is due to the formation of such compounds which limit the chemical activities of the protoplasm. On account of the unstability of the compounds, these remain formed only so long as the pressure of the anæsthetic in the solution is maintained." Others[5, 6] hold that the "lipoid" element in the corpuscles, plasma, and tissues is responsible for the fixing of the chloroform, so long as the vapour pressure of the chloroform is sufficient. The term "lipoid" is held to mean those "fat-like" constituents of animal or vegetable cells which can be extracted by means of ether or similar solvents" (Rosenheim[7]). Meyer[6] has postulated the hypothesis that all bodies capable of dissolving fats possess, in a greater or less degree, anæsthetic properties. This suggestion as to the importance of the "lipoids" in anæsthesia is supported by the experiments of Nicloux,[8] who showed that, if an animal was anæsthetised with chloroform and killed when fully anæsthetised, the nervous tissue of the brain and spinal cord contained a larger proportion of chloroform than any other tissues—the blood excepted.

In further examining this point, Nicloux and Mdlle Frisson[9] found that the white matter held more of the anæsthetic than the grey, and that the different power of fixation of chloroform varied with the proportion of fats or analogous substances. On pursuing this investigation with regard to other tissues they found that the law held good. Thus we may take it that the "lipoid" element in blood and tissue cell forms a loose combination with the chloroform, and that anæsthesia depends upon this.

It is also notable that the heart muscle is found to have a much greater affinity for chloroform than skeletal muscle, as represented by the figures 41 mg. per cent for cardiac and 21 mg. per cent for skeletal muscle. Sherrington and Sowton[10] have shown that striped muscles—unlike cardiac—are not readily poisoned by chloroform. Thus the substances which fix the chloroform in cardiac muscle are present in smaller amount in skeletal muscle, and we have a much smaller susceptibility of the latter to the action of the drug.

Having thus decided that the chloroform owes its action to its affinity for "lipoid" substances, we must now consider how the anæsthetic is absorbed. Is it taken up rapidly or slowly? Is it taken up at a uniform rate?

The work of Brodie and Widdows[11] and Buckmaster and Gardner[12] agrees in all important respects in this connection. They show that the chloroform absorption increases with great rapidity in the initial stages of anæsthesia to a value which approaches a maximum.

Brodie and Widdows show that the period of maximum absorption is during the second minute of the administration, but Buckmaster and Gardner place the time somewhat later, from five to fifteen minutes in three instances.

Following this maximum of absorption the breathing becomes shallower, probably owing to the effect of the chloroform on the respiratory centres. This depression of respiration varies in different individuals, and appears to depend on the degree of concentration of the chloroform-air mixture. During the period of respiratory depression the rate of absorption diminishes.

At this stage in animals the authors found that there was danger of the respiration completely stopping, and that, although artificial respiration was frequently successful in restoring the breathing, this was not always the case. Buckmaster and Gardner state that all the deaths they had during this period were entirely due to respiratory failure, and none to cardiac failure. Levy,[13] on the other hand, has recently published a communication in which he records

18 cases of sudden death in cats during light anæsthesia, in which fibrillation of the ventricle was the cause of death. He points out that these deaths occurred when the animals were imperfectly anæsthetised, and that the removal of and re-application of the inhaler appeared to play a part in the fatal result.

In any case, whichever is affected most markedly, the evidence is completely in agreement that a definite danger-point occurs within the first few minutes of anæsthesia. This is represented by the period between Y and Z in Fig. 1.

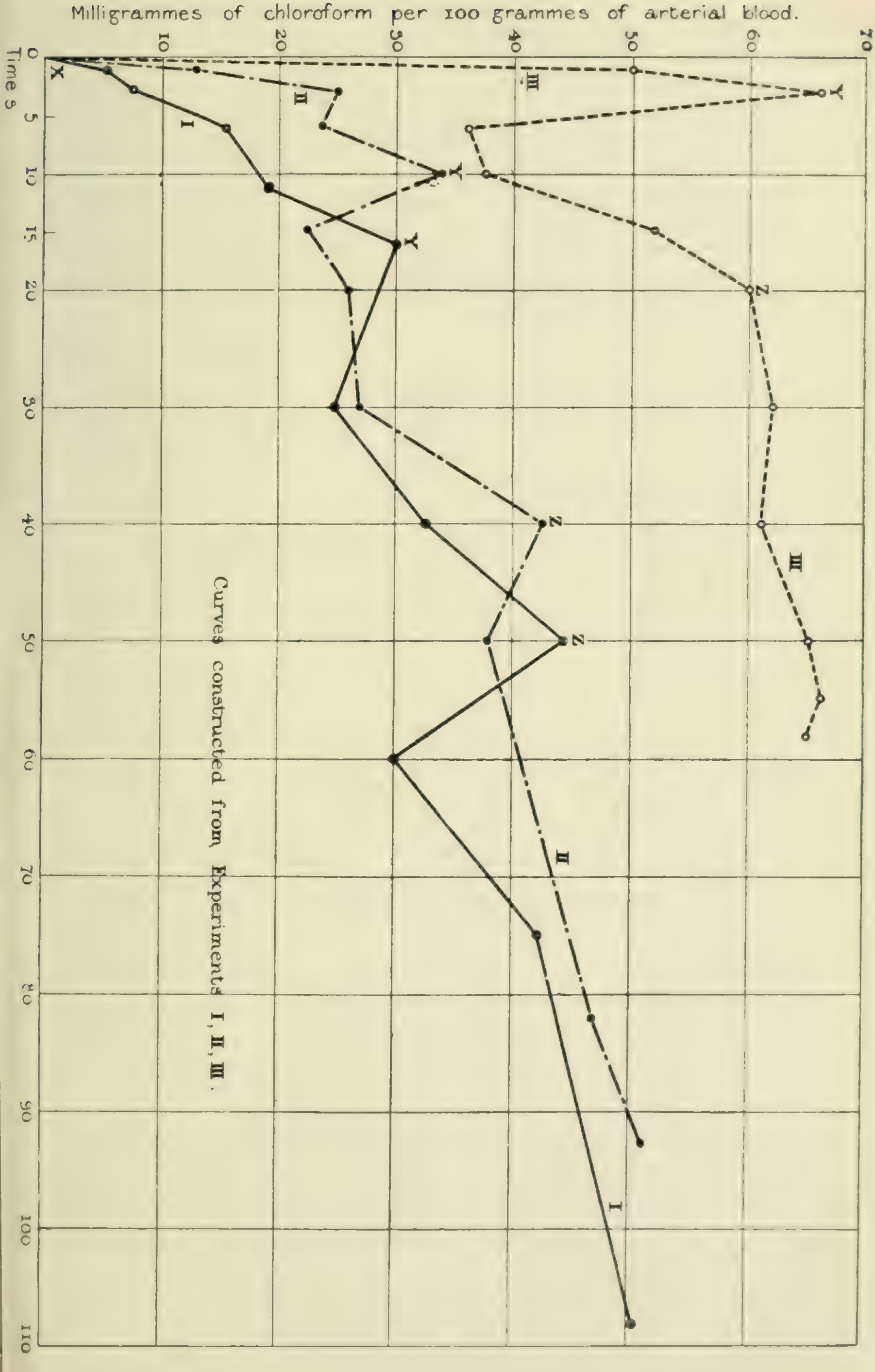
Sherrington and Miss Sowton have shown that cardiac muscle is much more readily affected by chloroform solution plus CO_2 than by chloroform solution plus O_2, and, consequently, the period of diminished ventilation of the lung must necessarily be one of danger.

If the animal passes this stage, and the administration is continued, the absorption again increases, and the chloroform content of the blood rises again until a point of equilibrium is reached—intake and output going on side by side. This equilibrium can be maintained for a considerable time, which varies in different individuals. The point of equilibrium is, however, not one of safety, for the difference between the amount of chloroform in the blood throughout this stage and death is very small.

At the same time, as absorption of the anæsthetic is going on, elimination is also taking place, and, as in the case of absorption, this does not take place at a uniform rate.

The rate of elimination to some extent depends upon the condition of the animal under experiment, but generally it may be taken that the rate of output is rapid at first and slower after. When the point of equilibrium referred to above is reached, a very small administration of the drug is all that is necessary to keep the animal anæsthetised—that is to say, both absorption and elimination are slow. The initial rate of elimination is slower than the initial rate of assumption, so that, as pointed out before, the blood is all the time becoming more charged with chloroform.

After the administration is stopped the rate of elimination is at first very rapid; indeed, according to Nicloux,[14] half the chloroform content is eliminated in the first five minutes in dogs. Buckmaster and Gardner[15] found that half the chloroform content was eliminated in fifteen to twenty minutes in cats, and in rabbits Paton and Miss Lindsay[16] found that in dogs more than half the chloroform was eliminated in twenty-five minutes.



Curves constructed from Experiments **I, II, III**.

The remaining part was eliminated at varying rates. In some instances very little sign of chloroform was found after two hours, although in others about 20 mg. per cent was found—an amount equal to about one-half of what was required to produce full anæsthesia. It is of interest to note that in these cases the animals were kept in small cages and at rest.

After more than three hours a relatively large amount may still remain. Such instances may probably be considered abnormal, and we may take it that normally the elimination of chloroform, when given through the respiratory tract, is comparatively rapid, particularly if the administration has been of short duration.

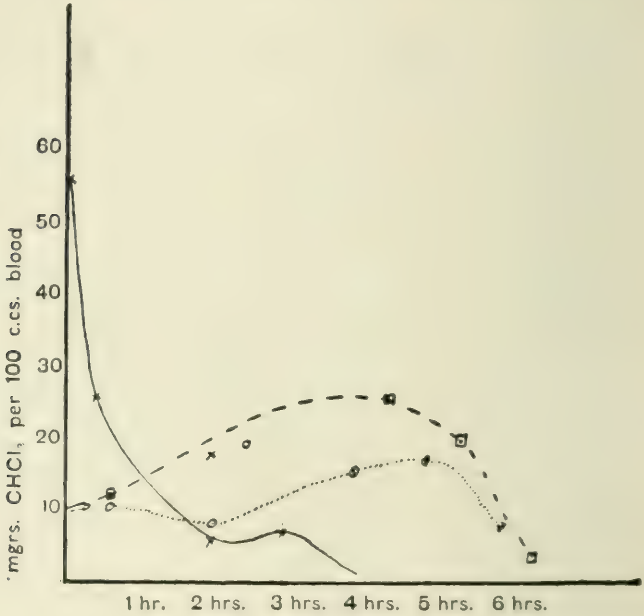


FIG. 2.

Curves showing the rate of assumption and elimination of chloroform when given in the three ways indicated (Paton and Miss Lindsay).

———— By inhalation.
. . . . By injection.
– – – – By stomach.

When chloroform is given in ways other than through the respiratory tract, the rates, both of absorption and elimination, are very different.

It is well to look into these points, for it is quite a common thing for chloroform in one form or another to be given by the stomach, as flavouring agent in a mixture, or for its soothing effect in cough, &c., and Giani[17] has recently published a paper advocating its use as an anæsthetic in the form of intravenous injection.

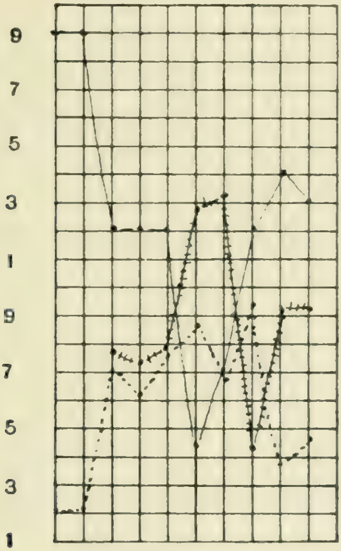


Fig. 3.

Curves showing the distribution of the urinary nitrogen after chloroform administered by the stomach (Paton).

——— $CO(NH_2)_2$ }
……… NH_3 } N
|-·-·-·-| Residual }

Fig. 2 shows the much slower rate of assumption of chloroform when given by the mouth or hypodermically, and also indicates the very much greater length of time required before elimination is anything like complete.

The maximal amount in the blood is not reached until about four hours after administration by the stomach, and not until about five hours after injection.

Thus when administered in either of these latter ways the tissues are affected by chloroform for a very much longer time than when the drug is given in the more ordinary way. This point is of very great importance, as we shall see when we examine the effects upon metabolism and upon the tissues themselves.

When chloroform is administered through the respiratory passages the effect upon metabolism is at best but slight. These effects, if present, would be indicated, in degree at least, by changes in the excretion of the products of disintegration in the urine.

Quantitative change in the protein broken up would be shown by alterations in the amount of nitrogen excreted, while quantitative changes would be indicated by alterations in the distribution of the excreted nitrogen and sulphur in the constituents of the urine containing these elements. In experiments performed in dogs by Noël Paton [18] any effect that followed the administration by inhalation was of the nature of a stimulation of the hepatic metabolism. This showed itself in an increased conversion of ammonia to urea. Thus the proportion of N as urea remained unchanged or slightly increased, while the Nitrogen in NH_3 was unchanged or slightly decreased.

When given by the stomach the protein disintegration caused by the administration of chloroform is very greatly increased, particularly on the day of or the day after the administration. After a day or two the proportions of the various N. containing substances in the urine, undergo marked changes, the urea N diminishes, the NH_3 N increases, and later the residual N increases (Fig. 3). The increase in the latter is quite marked, and Paton suggests that it probably represents the appearance of amino acids. The proportion of unoxidised S to total S shows a distinct fall.

With the idea of throwing some light upon the nature of the products forming the residual N, and thus testing Paton's hypothesis as regards the presence of amino acids, Miss Lindsay [19] has recently published a series of complete analyses. Experimenting on three dogs she found, in addition to the increase in total nitrogen and the diminution in urea nitrogen, with rise in NH_3 nitrogen, that the residual N could be divided into allantoin N, amino acid N, creatinin N, and creatin N with a small percentage of undetermined nitrogen.

A slight rise in allantoin N is noted, which is probably caused by the toxic action of the drug upon the liver cells.

The amino acid N rose in each case, the rise generally being in mon-amino acids, but in one case the rise was probably due to increase in di-amino acids and polypeptides. The creatinin N remained practically unchanged, but creatin appeared in the urine two or three days after the administrations. This disturbance of the creatin metabolism is associated with the disturbance in the hepatic functions, and Underhill and Kleiner[20] found fatty degeneration and creatin excretion following injection of hydrogen sulphate, while Mellanby[21] found creatin in considerable amount in cases of carcinoma of the liver. The amount of creatin in the urine may be taken, according to Hoogenheryze and Verploegh,[22] as an indication of the extent of the hepatic disturbance.

The undetermined nitrogen probably represents di-amino acids and polypeptides.

These effects upon the metabolism suggest that when given by the mouth chloroform exerts a toxic action upon the liver cells, notably, a day or two after the administration. The urine also shows the presence of tube-casts, renal epithelium and protein, so that the kidney is affected also. This is much less marked when chloroform is given as an inhalation.

When chloroform is given hypodermically it acts in the same way as when given by the mouth, but not so markedly. The toxic effect upon the liver cells does not appear to be as great as when the drug is given by the mouth. There may be a fall in urine N, with a rise in residual N and in ammonia N, but in other instances there may be no definite change in the nitrogen excretion.

Thus it would seem as if the rapid assumption of chloroform, when administered through the lungs, and the relatively rapid elimination, stimulate the hepatic metabolism; whereas the chloroform, more slowly absorbed and eliminated, and therefore having a much more prolonged action when given by the mouth or hypodermically, leads to an actual injury of the liver and kidney cells.

Another element may influence the rapidity of assumption and elimination of the drug. Moore and Roaf (*loc. cit.*) have shown that chloroform is relatively very soluble in blood plasma, and it appears possible that the solubility of chloroform in plasma plays a part in its elimination. For example, the chloroform, combined with the lipoids of the corpuscles after inhalation, appears to be loosely combined, and, consequently, the chloroform is fairly rapidly eliminated, more than 50 per cent within half an hour of the cessation of the administration.

When given by stomach or hypodermically the assumption of the drug is slow, and as the drug is absorbed into the blood-stream itself it seems probable that a quantity of it will remain dissolved or fixed in the plasma, and, consesequently, its destructive action upon liver and kidney cells will be much more marked.

During anæsthesia from inhaling chloroform, at least 12 per cent of the chloroform in the blood is found in the plasma, and it may possibly be this small percentage which, in some animals referred to by Noël Paton and Miss Lindsay, appeared in the blood three or more hours after the withdrawal of the anæsthetic.*

The influences of chloroform upon metabolism having been thus briefly referred to, I wish to direct your attention to the effects of the drug upon the various tissues, as these explain in great part the influence upon metabolism.

In the first place the chloroform is absorbed into the blood-stream, and we have its stimulating or its toxic action first upon the blood-cells. *In vitro* chloroform is found to cause laking of the blood, owing to the solution of the lipoids of the red cells. This, however, is with strong solutions of chloroform. When administered in the three ways described before, I have found experimentally that a rise in the number of red corpuscles per c.mm. follows next day, and persists for some days.

There does not appear to be a similar increase in leucocytes, and Dawson,[23] in two dogs, found a slight fall. This may, in measure, be explained by the exudation of leucocytes into the renal tubules, as referred to by Thompson.[24]

Last year I made a large number of experiments upon rabbits with the object of finding if the increase in red corpuscles was due to concentration of the blood, but arrived at no definite result. The rise in red corpuscles in the rabbit is large, amounting at times to as much as 25 per cent, counting by the Thoma-Zeiss hæmocytometer, and occurred almost invariably after administration. In the small number of cases which did not so react most of the animals died very shortly after. The increase after injection or administration by the mouth was greater than when the drug was inhaled. The increase is probably due to the large loss of water in the urine following the administration, as observed by

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* Since delivering this lecture, the author and Miss Lindsay have definitely determined that the proportion of chloroform in the plasma is very much greater when the drug is given hypodermically than when inhaled.

Thompson (*loc. cit.*). Microscopically the red cells showed signs of degeneration in some instances, and the varied size of the erythrocytes and the activity of the bone-marrow suggest that the blood-forming tissue was actively forming cells to make up for those injured by the administration.

TABLE I.*—SHOWING AVERAGE NUMBER IN MILLIONS OF CORPUSCLES PER C.MM. AFTER CHLOROFORM GIVEN IN THE WAY INDICATED.

	Inhalation.	By Stomach.	Injection.
Day of administration, . .	6·3	5·8	5·9
1st day after, ...	7·2	7·3	7·4
2nd day after, ...	7·1	6·9	6·8
3rd day after, ...	6·7	6·8	6·5
4th day after, ...	6·1	6·9	6·4

The table (I) shows the average rise and fall after administration in the three different ways. In the inhalation experiments chloroform was exhibited for periods varying from fifteen minutes to one hour. Given by the stomach, or injected hypodermically, 1 c.c. was administered.

TABLE II.*—ADMINISTRATION BY INHALATION.

No.	DAY.									
	1st.	2nd.	3rd.	4th.	5th.	6th.	7th.	8th.	9th.	10th.
6	1470	1450	—	—	—	—	—	—	—	—
7	950	920	860	770	—	—	—	—	—	—
8	2250	2250	2120	—	—	—	—	—	—	—
12	1850	1725	1750	1780	1880	1855	1850	1870	1855	1750
20	2300	2275	2270	2270	2250	2200	2400	—	—	—
22	2050	1975	1950	1900	1850	1850	1800	1750	1700	1625*
24	2250	2170	2250	2150	2250	2250	2100	2150	—	—
26	1600	1600	1700	1750	1750	1750	1700	—	—	—
27	1650	1600	1550	1700	1750	—	—	—	—	—
30	2050	1950	1800	1670	1600	—	—	—	—	—
32	2370	2270	2260	2250	2300	2100	2050	1950	1925	1950†
36	1600	1550	1550	1550	1600	1600	—	—	—	—

* Survived for one month. Weight at death 1400 grammes.
† Survived for two months. Weight at death 1840 grammes.

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* These tables are reprinted by kind permission of the editor of *The Lancet.*

In addition to these effects upon the blood we have effects upon the liver, kidney, spleen, and heart which have to be considered histologically: but first I wish to draw attention to the effects of chloroform upon urinary secretion at the time of administration and immediately after. According to Thompson, who conducted a series of experiments on dogs, which were anæsthetised by inhalation for periods of from two to four hours, the quantity of urine secreted increases during the early stages when the anæsthesia is light, but is diminished or suppressed during full anæsthesia.

During chloroform anæsthesia the urine secreted is invariably more dilute than normal, even with diminished amount. He finds that there is a general but not accurate correspondence between urine outflow, kidney volume, and blood pressure. After the removal of the anæsthetic the amount of urine secreted increases greatly, sometimes as much as four times the normal. The maximum outflow occurs about three hours after removal of the anæsthetic. Thompson reports also considerable exudation of leucocytes into the renal tubules, particularly after prolonged nacrosis.

Albumen and reducing substances, other than glucose, in increased amounts are frequently found, and the excretion of chlorides is much increased, both during and after anæsthesia.

This summarises the effect of chloroform upon kidney excretion, and we have to turn to histological investigation to find causes for the metabolic and excretory disturbances which have been referred to. In experiments performed by the author[25] the effects upon the various tissues varied considerably with the manner of administration and with the amount given. When administered by inhalation for a short period a comparatively slight change was all that was seen, except in rare instances. A small degree of cloudy swelling was frequently seen in kidney and liver cells, but this was absent a day after the administration.

When chloroform was administered to rabbits by the stomach the mortality was very great, and in those animals which survived extensive changes in the liver and kidneys were invariably found soon after two hours.

The kidney tissue showed marked degenerative changes. The tubules were frequently found to be choked with albuminous *débris*. The cells were broken down, and the nuclei stained unequally, some taking the basic stain very badly. Granules giving a positive reaction for fat were found in large quantities. Signs of hæmorrhage were frequently found, and in the cells lining the tubules adjacent to the hæmorrhages dark granules of hæmosiderin were found.

Still greater changes were found in the liver.

In the animals which suffered most the centre of the liver lobule was found to be broken down into a cheesy mass showing no signs of liver tissue, and containing large masses of *débris* giving a positive reaction for fat. The periphery of these lobules invariably showed cells closely resembling normal liver cells, while the intermediate zone showed cells in various stages of degeneration.

In animals that were somewhat less affected by the drug, or which were killed soon after the administration, the cells in the centre of the lobules were found to be markedly degenerated, while the intermediate zone cells were less so, and the peripheral cells, to all appearance, very slightly injured.

When administered subcutaneously the changes caused by the chloroform are intermediate between those slight ones seen after inhalation and the extensive degeneration seen after administration by the stomach.

Chloroform in doses such as were given in the series of experiments caused enormous degenerative changes in the kidney and liver cells when administered by stomach, and somewhat less so when injected. This accords with the results obtained by Doyon.[26] These facts explain the metabolic changes already observed. The slight changes seen after inhalation of the drug for a short time are in keeping with the slight metabolic changes referred to before. As to the probable reason for these different effects when chloroform is inhaled, the proportion of chloroform in the blood rises rapidly, and falls fairly rapidly. Assumption and elimination are both rapid, and the tissues are affected for a comparatively short time, except during a prolonged administration. When given by the stomach or hypodermically, assumption is slow and elimination is slow; and, consequently, the tissues are affected by the chloroform for a considerable time. This does not entirely explain the difference, for after a single prolonged administration by inhalation—say, for four hours—the amount of degenerative change in the organs is never comparable with that seen after, say, administration of 1 c.c. by mouth in both cases; the drug is almost completely eliminated after six hours. Sherrington and Miss Sowton (*loc. cit.*) have shown that when cardiac muscle is immersed in a solution of chloroform in saline a very much greater effect is produced than when a similar quantity is dissolved in blood and serum. In the serum the chloroform is, in part at least, in combination with the proteins, whereas in the saline solution the chloroform is free and readily affects the muscle. The effect, therefore, depends upon the relative affinity of chloroform for saline, serum, and cell substance.

In whatever way the chloroform combines in the blood, it seems as if it may be fixed firmly or loosely, and that the anæsthetic effect is obtained by the loosely combined portion; while the destructive effects, seen after administration by mouth or hypodermically, are caused by a more firmly combined portion whose elimination is delayed. It is instructive to note that in an animal, which was injected with 1 c.c. of chloroform and killed after five and a half hours, 31·6 mg. of chloroform per cent were found in the blood; while the animal, though shaky, was not completely anæsthetised, whereas full anæsthesia was produced by inhalation in a rabbit whose blood contained 30·8 mg. per cent when killed immediately after the administration. Another rabbit, which had 1 c.c. administered by the stomach, and which was also not fully anæsthetised, showed 32·5 mg. per cent in the blood when killed three hours after.

TABLE III.—ADMINISTRATION BY SUBCUTANEOUS INJECTION.

No.	Day.											
	1st.	2nd.	3rd.	4th.	5th.	6th.	7th.	8th.	9th.	10th.	11th.	12th.
1	*1150*	*1150*	1100	1050	1070	*1075*	*1100*	1050	1070	1000	—	—
2	*2000*	1950	1890	*1925*	*1900*	—	—	—	—	—	—	—
3	*1550*	1550	1520	*1470*	*1550*	1450	1430	1450	—	—	—	—
	Daily Injections of 0·1 cc.											
4	1700	1680	—	—	—	—	—	—	—	—	—	—
5	1430	1400	—	—	—	—	—	—	—	—	—	—
13	2400	2450	2430	2230	—	—	—	—	—	—	—	—
16	2700	2630	2520	2625	2500	2470	2400	2310	2220	2180	2150	2130
19	1700	1680	1700	—	—	—	—	—	—	—	—	—
21	3100	3050	3050	3000	3050	3020	2975	2930	2900	2850	1 month	2725
25	1650	1550	1470	1450	1450	1350	1300	1350	1300	1375	1350	1250
28	1500	1400	—	—	—	—	—	—	—	—	—	—
29	1150	1150	1150	1150	1100	1060	—	—	—	—	—	—
31	2450	2420	2280	2250	2350	2450	2300	2150	2100	1950	26 days	1350
37	1325	1300	1200	1100	1200	1200	1150	—	—	—	—	—

These observations in the delayed elimination of chloroform throw some light upon the condition known as late chloroform poisoning, as the lesions found in liver particularly, and in part in the kidney, are similar to those described by various authors as occurring in late chloroform poisoning.[27, 28, 29, 30, 31]

TABLE IV.—ADMINISTRATION BY THE STOMACH.

No.	Day.											
	1st.	2nd.	3rd.	4th.	5th.	6th.	7th.	8th.	9th.	10th.	11th.	12th.
9	2380	2320	2200	2250	2250	2160	2210	2175	—	—	—	—
14	2300	2350	2380	2380	2240	—	—	—	—	—	—	—
15	2150	2025	1975	2050	2150	1950	1925	1900	1940	1875	1870	1870
18	2400	2520	2500	2550	2450	2300	2150	4 months later 1350				
23	1700	1700	1750	1700	1650	1550	1500	1500	1450	—	1 month	1620
33	2100	2000	2000	1900	1900	1800	1700	1650	1600	1550	1475	—

The observation made by Noël Paton and Miss Lindsay, that the rate of elimination is improved by free ventilation and exercise in rabbits, suggests a method of minimising risk of this sequel to chloroform anæsthesia, and emphasises the importance of not letting a patient "sleep it off." The condition seems to depend upon delayed elimination, and this may be due to the fixation of a certain proportion of the chloroform in the proteins of the serum or tissues.

TABLE V.—WEIGHT OF THE SPLEEN IN ANIMALS ANÆSTHETISED.

No.	Original weight of Animal.	No. of days.	Weight of spleen.
12	1850 grammes.	20	2 grammes.
20	2300 ,,	7	0·9 gramme.
22	2050 ,,	31	1·2 grammes.
24	2250 ,,	8	1·95 ,,
26	1600 ,,	7	0·6 gramme.
27	1650 ,,	5	1·4 grammes.
30	2050 ,,	5	0·72 gramme.
32	2370 ,,	65	1·2 grammes.
36	1600 ,,	6	1·2 ,,

So far I have considered only the single administration of relatively large doses, 1 c.c. injected or by stomach. The results in these experiments quoted were very striking, and suggest that a very much smaller dose might have been sufficient to cause changes in the tissues, particularly if given frequently. The great interest in this particular series of observations lies in the fact that while 1 c.c. of pure chloroform is probably never given to human beings by the mouth, the small dose given to rabbits in this way corresponds to the amount of chloroform found in a single licquorice, linseed, and chlorodyne lozenge, (Crichton Browne[32]).

TABLE VI.—THE WEIGHTS OF THE SPLEENS AND OTHER PARTICULARS.

No.	Original weight of Animal.	No. of days.	Weight of spleen.
16	2700 grammes.	13	1·5 grammes.
21	3100 ,,	30	1·85 ,,
25	1650 ,,	15	0·67 gramme.
28	1500 ,,	3	1·2 grammes.
31	2450 ,,	26	1·5 ,,
37	1325 ,,	7	1·5 ,,
Average,	2121 ,,	16	1·37 grammes.

Enough chloroform water to contain 0·08 gm. of chloroform was given each day to a number of rabbits, and observation made upon them (Clark)[33]. Similarly 0·1 c.c. was injected daily into another group of rabbits, while a third lot were anæthetised through the lungs for ten minutes on alternate days. In the latter case daily administration was found

TABLE VII.—THE WEIGHTS OF THE SPLEENS AND OTHER PARTICULARS.

No.	Original weight of animal.	No. of days.	Weight of spleen.
14	2300 grammes.	5	1·2 grammes.
15	2150 ,,	14	0·3 gramme.
18	2400 ,,	140	1·5 grammes.
23	1700 ,,	30	0·95 gramme.
33	2100 ,,	11	0·8 ,,

to be very fatal, only the first three animals used having daily administrations.

Valuable information was obtained from a critical study of the weights from day to day.

1. *Inhalation.*—Where the administration took place daily the weight fell rapidly, but where the administration was on alternate days there was but little change, unless where the animal lived for some time (Table II).

2. *Injection.*—Here the effect is very marked, and the animals lost weight fairly rapidly, as is shown in Table III.

3. *By stomach.*—Here, also, the loss of weight is marked. One animal, however, survived for four months, but its weight diminished almost 50 per cent in that time (Table IV).

The histological changes seen were similar to those already described, but these were found in all cases, and not only in a proportion of them. While both kidney and liver suffered in all the animals used, the kidney suffered relatively more after inhalation than when chloroform was administered in the other ways.

The spleens were also examined, and showed in all cases great engorgement, and often very great increase in size and weight.

The average weight for four control rabbits weighing over 2,000 grms. each was 0·78 gm., and the tables show the enormous increase in the various different ways of administrating chloroform (Tables V, VI, and VII).

Histologically the sinuses were engorged with blood, and a large amount of iron containing pigment (hæmosiderin) was seen frequently filling large phagocytes, which were seen in all the sections examined.

The hearts in many animals showed degenerative changes, particularly after the inhalation experiments. Loss of cross striping and segmentation of the fibres were features, and also imperfect staining of the nucleus.

Considering these results it seems apparent that given in the form of small doses, frequently repeated, chloroform is a much more dangerous drug than when given in a single much larger dose. The first doses given appear to lower the vitality of the tissues, so that the later doses have a more marked action.

In conclusion, the experiments cited seem to prove that chloroform, however given, has far-reaching effects on the tissues and blood, and, consequently, upon metabolism and excretion. These effects are enormously increased when elimination is delayed.

Elimination may be delayed in many ways, and idiosyncrasy, or a number of undetermined factors, appears to influence the action of chloroform on animals.

A danger-point occurs soon after the commencement of the administration by inhalation, and, although the establishment of equilibrium between assumption and elimination marks a point of less danger, the safety is only relative. Immediately following the administration changes of a degenerative nature may appear in many organs, and with delayed elimination the occurrence of delayed chloroform poisoning in some degree is certain to occur. Thus it seems proved that chloroform, however given, is an exceedingly treacherous drug, and that its use is fraught with grave danger.

A grant was received from the Carnegie Trust to defray the expenses of this research.

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ETHER ANÆSTHESIA BY INTRAVENOUS INFUSION.

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Since the introduction of the intravenous method of administering ether for procuring surgical anæsthesia little has been written on the subject in this country. It is proposed in this short paper to give an account of the method and its special uses as carried out in several of the hospitals in London.

The apparatus of Mr. Rood,[1] as supplied by Meyer & Meltzer, consists of a stand 8 feet high, which supports —(*a*) a glass reservoir with a capacity of 3 pints; (*b*) a glass dripping chamber, or indicating chamber, of about 8 oz. capacity; and (*c*) a glass warming chamber. When the apparatus is ready for use the solution of ether in normal saline flows from the reservoir (*a*) by means of rubber-tubing, and drips through a pipette into the indicator (*b*), the lower half of which is filled with the solution while the upper half contains air. The fluid then flows through the warming chamber (*c*), which is surrounded by a jacket containing water at a temperature of 100° F. The solution is warmed in its passage through this chamber, which is so constructed that by means of a fluid-trap air bubbles and ether vapour are prevented from passing onwards. From the warming chamber the solution passes through a rubber tube and cannula into the vein. As this arrangement forms a closed system, the rate at which the fluid flows into the dripping chamber indicates the rate of flow of the solution into the vein.

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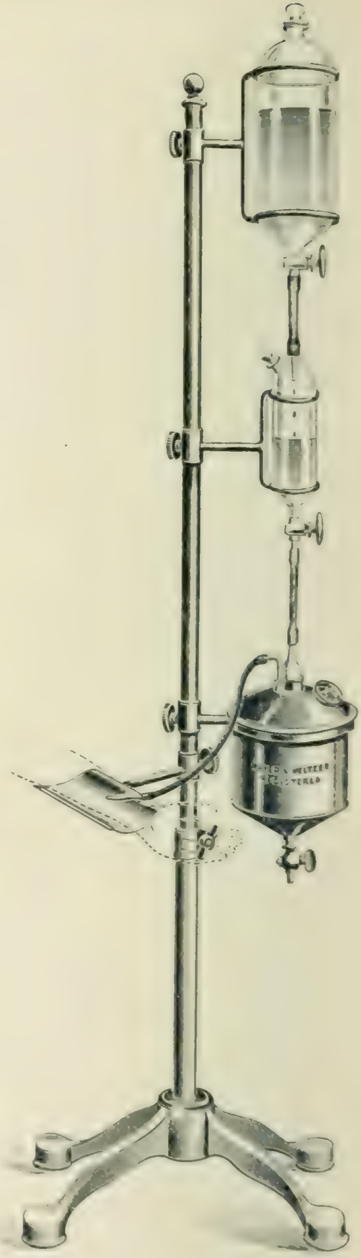
[1] *British Medical Journal*, 21st October, 1911.



The solution used is a 5 per cent solution of ether in normal saline. The saline used to prepare this solution must be cold, since, if used warm, the ether would vaporise and escape. An unduly weak solution means a long induction period and the use of an excessive quantity of fluid, thereby causing grave risk of sudden œdema, general or local, as, for example, œdema glottidis. Ether dissolves up to 10 per cent in saline, but a solution of this strength is apt to produce hæmolytic changes in the blood which might result in thrombosis or embolism. Burkhardt[1] showed by experiments on animals and men that a 5 per cent solution never produced thrombosis, and that the risk of over-dose was negligible. In Rood's[1] earlier cases a solution stronger than 5 per cent was found to produce a transient hæmoglobinuria.

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[1] *Münchener medizinische Wochenschrift*, 1910, No. 7, p. 361.

In addition to the usual preparation of the patient, a hypodermic injection of morphine hydrochloride (gr. $\frac{1}{6}$-$\frac{1}{4}$), atropine sulphate (gr. $\frac{1}{100}$), and scopolamine hydrobromide (gr. $\frac{1}{100}$) should be given about three-quarters of an hour before operation. In very strong and vigorous patients it is advisable to give this injection about an hour and a half to two hours before operation, and to give an additional injection of morphine about one hour later. The atropine lessens secretion, and is said to prevent reflex cardiac inhibition. The morphine and scopolamine render the patient drowsy and semi-conscious, so that struggling during the induction period is reduced to a minimum, and a very small amount of ether is required to maintain a satisfactory state of anæsthesia. When the patient is on the table the arm is supported on a straight posterior splint, and the vein is opened under a local anæsthetic, such as novocaine, the strictest aseptic precautions being observed. When the vein is exposed and opened, the stopcock below the dripping chamber is turned on to allow a little fluid to run through, and the cannula is then inserted into the vein and tied in position with a ligature. The stopcock is kept full on until anæsthesia is complete, and this usually requires from three to ten minutes. The cock is then turned, so that the solution passes by drops into the dripping chamber; but the flow should never completely cease owing to the danger of thrombosis occurring at the point where the cannula is introduced. The rate of flow, controlled by the stopcock, can be increased or decreased as required. In Rood's[2] cases the amount of solution used to obtain surgical anæsthesia averaged 8 oz., while to maintain anæsthesia 1 pint per hour was required.

Personal experience makes me believe that rather more than 1 pint of the solution per hour is necessary to procure a satisfactory anæsthesia.

The method is specially useful in operations on the head, throat, and neck, as the anæsthetist does not encroach on the field of operation. It answers well in cachectic patients generally. It may be employed with advantage in collapsed

[1] *British Medical Journal*, 21st October, 1911.

[2] *Ibid.*

abdominal cases, and in operations attended by surgical shock, *e.g.*, ruptured ectopic gestation, Wertheim's operation, operations for removal of the breast, &c.—that is, in cases where saline transfusion is beneficial. The patient enjoys the double benefit of anæsthesia and saline infusion at one and the same time.

The method is contra-indicated in the alcoholic, plethoric, and muscular type of patient, in cases where there are advanced changes in the vascular and pulmonary systems, and in all cases in which transfusion would increase backward pressure on the right side of the heart.

Notes of a few cases I have anæsthetised by the intravenous method during the past two months may be of interest.

Case.	Induction.	Administration.	Solution Used.	Remarks.
1. Carcinoma of tongue.	15 mins.	40 mins.	4 pints.	Operation completed under chloroform.
2. Inguinal hernia.	6 ,,	35 ,,	1¼ ,,	No after-effects.
3. Œsophagoscopy.	5 ,,	45 ,,	1½ ,,	No after-effects.
4. Dupuytren's contraction.	8 ,,	40 ,,	1½ ,,	Inflammation at site of injection of novocaine.
5. Perineorrhaphy.	6 ,,	36 ,,	1¼ ,,	Vomited once.
6. Appendicectomy.	4 ,,	54 ,,	3½ ,,	No after-effects.
7. Ileo-sigmoidostomy.	3 ,,	55 ,,	1¼ ,,	No after-effects.

The first and sixth cases illustrate the difficulty met with in patients of a plethoric type, both being muscular, alcoholic subjects. The stage of excitation was marked, and during the operation much trouble was caused by reason of muscular rigidity. It will be noticed that the amount of solution used was excessive. Failure in these cases may be explained by the type of the patient, and by faulty administration of the morphine-atropine-scopolamine injection. The last case illustrates the absence of after-effects. This patient had absolutely no vomiting after operation, although there had been a great deal of necessary manipulation of intestine.

In selected cases the advantages of this method over inhalation methods of administering ether may be briefly stated as follows:—

1. The patient is spared the disagreeable sensations attending the administration of an inhalation anæsthetic.
2. There is no primary irritation of the respiratory organs or of the heart.
3. A very small amount of anæsthetic is used.
4. Anæsthesia, when produced, is of a calm and placid nature.
5. There are no after-effects; headache and vomiting practically never occur, and pulmonary complications are absent.

The method will not replace ordinary anæsthesia, but ought to prove useful in selected cases where the older method would be inconvenient, or would expose the patient to undue risks.

Obituary.

WM. F. NESS, M.A., M.D. GLASG.,
PORT-GLASGOW.

BY the death of Dr. W. F. Ness, which occurred on 7th ult., Port-Glasgow has lost one of her older medical practitioners. Deceased studied in the University of Glasgow, where he graduated M.A. in 1882, and M.B., C.M., in 1887. Ten years later he took his M.D. Shortly after leaving college he settled in Port-Glasgow, where he engaged in practice. His wife died some years ago, and for the past two years he himself had enjoyed but indifferent health.

JAMES M'MILLAN M'MILLAN, M.B., CH.B. GLASG.,
AYR.

WE have to announce the death, which took place at Ayr on 8th ult., of Dr. J. M. M'Millan. Deceased, who was in his twenty-seventh year, was an Ayr man, and graduated in Glasgow in 1908. He was formerly a house surgeon in the Outdoor Department of the Western Infirmary.

CURRENT TOPICS.

Appointments.—*Western Infirmary:* W. Rankin, M.B., Ch.B.Glasg. (1904), and J. M. Renton, M.B., Ch.B.Glasg. (1905), F.R.C.S.Edin., Extra Dispensary Surgeons, have been promoted Dispensary Surgeons.

Royal Hospital for Sick Children: Berkeley H. Robertson, M.B., Ch.B.Glasg. (1904), has been appointed Extra Honorary Physician.

Royal Infirmary: Completion of Central Block.—On the afternoon of 17th June the managers and staff of the Royal Infirmary made an informal inspection of the central block of the new buildings prior to the occupation of the wards.

The central block contains the administrative offices and the wards and adjuncts for the treatment of special diseases, and its completion marks an important stage in the reconstruction scheme. The new building has a frontage of 200 feet to Castle Street, and connects the north (or surgical) block with the south (or medical) portion of the hospital. The construction of this last has been begun, but it is expected that two years will elapse before it is ready for occupation.

The block just completed contains, in addition to administrative offices, a nurses' dining-room and apartments for the resident medical staff, and on each of its five floors are two wards of ten beds each. These wards are for the accommodation of gynæcological cases, burns, throat and ear cases, &c., and there are two operating theatres in the block. There is, further, a chapel extending eastwards from the south wing of the north block. This chapel, which will accommodate 100 persons, has a domed roof and eight windows of stained glass.

To many the process of reconstruction has seemed slow, but it is none the less sure, and as bit by bit the old buildings are cleared away, the impressive massiveness of the new building comes to be more and more felt. One circumstance which cannot fail to excite admiration is the way in which the Medical Superintendent, Dr. Maxtone Thom, and all who co-operate with him, have carried on the work of the hospital amid surroundings eminently calculated to cause discomfort, and we are sure that all will congratulate them on at length being within measurable distance of coming into their kingdom.

GLASGOW OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—As we go to press, we would congratulate the medical profession in Glasgow on the opportunity they now have of hearing an address from Professor J. Whitridge Williams, of Baltimore, the Honorary President of this Society, and one of the foremost obstetricians of the present day. Professor Williams is to speak on the "Pernicious Vomiting of Pregnancy."

BIRTHDAY HONOURS.—Quite a number of the Birthday Honours have come to the profession, and we are sure that none will give greater pleasure to Scotsmen than the Knight Commandership of the Victorian Order, and the Companionship of the Bath conferred respectively on Professor Ogston and Surgeon-General Babtie, V.C.

Sir Alexander Ogston, K.C.V.O., M.D.Aberd., LL.D.Glasg. *et* Aberd., Emeritus Professor of Surgery in the University of Aberdeen, is well known by his contributions to scientific surgery. He has the distinction of having been Surgeon-in-Ordinary to their late Majesties Queen Victoria and King Edward VII in Scotland, and he is at present Surgeon-in-Ordinary to His Majesty King George V in Scotland. His new honour is felt to be a fitting recognition of his services to surgery, and his long official connection with successive sovereigns.

Surgeon-General Babtie, V.C., C.B., C.M.G., is a member of our medical school, of whom we are justly proud, and we congratulate him on the Royal recognition of his services to the medical department of the army.

R.A.M.C. (T.F.) GLASGOW UNITS.—The Glasgow Field Units of the Royal Army Medical Corps (Territorial) had a combined parade on Saturday, 8th ult. Falling in at Maryhill N.B.R. Station, the Units, headed by their pipe band, marched to Blackhill. Here a programme of field exercises arranged by Lieutenant-Colonel A. D. Moffat, M.D., T.D., was carried out. The L.M.B. Field Ambulance, under Lieutenant-Colonel H. W. Thomson, M.D., formed a collecting station for "wounded," who were then transferred to the L.M.B. dressing station.

The 1st Field Ambulance, under Lieutenant-Colonel G. H. Edington, M.D., formed a dressing station for the receipt of "wounded" sent by the 2nd Field Ambulance bearer company, under Major R. F. Shaw. During the afternoon the Units were inspected by the Assistant Director of Medical Services, Colonel Mackintosh, M.V.O., accompanied by his Staff Officer, Major Erskine, R.A.M.C. Colonel Mackintosh expressed himself highly satisfied with the smartness and efficiency of the various Units. Among other visitors was Lieutenant-Colonel W. F. Somerville, M.D., T.D., who recently retired from the command of the Glasgow Units.

On the Sunday the Field Units, accompanied by the members of the 3rd and 4th General Hospitals, and by former members who have now joined the National Reserve, paraded at Charing Cross and marched to the Bute Hall, where Divine service was conducted. Rev. Dr. Thomas Adamson, Chaplain of the Corps, officiated, and the lessons were read by Lieutenant-Colonels Moffat and Edington. Among other officers present were Colonel Mackintosh, M.V.O., Lieutenant-Colonels W. F. Somerville (retired) and H. W. Thomson, Major Erskine, R.A.M.C., Captain Hole, R.A.M.C. (Adjutant of School of Instruction), and Surgeon-Captain A. F. W. Gunn (retired). The last named officer commands the R.A.M.C. members of the National Reserve in Glasgow.

After service, the Corps returned to Charing Cross where they were dismissed.

The annual camp this year is to be at Lanark, where ground on the Race Course has been obtained. The camp lasts from 12th till 26th of July, and all the Field Units will be encamped together. The last occasion on which they were in Lanark was in 1908, when it was found that not only was the camp a very healthy one, but there were ample opportunities for carrying out field exercises.

KING EDWARD MEMORIAL IN SCOTLAND: TUBERCULOSIS RESEARCH.—A meeting of representatives of Scottish county and town councils and other public authorities was held in the City Chambers, Glasgow, on 31st May in connection with the appeal for £250,000 which is being made for the purpose of carrying out an important scheme for the prevention and alleviation of consumption as a memorial to the late King Edward. In January of this year the first meeting of the county and town representatives was held in Glasgow, and on that occasion resolutions were adopted providing for the raising of a fund to be called The King Edward Memorial

Fund, to be applied to the establishment and maintenance of an institute to be known as "The King Edward Memorial Institute of Preventive Medicine." This will be dedicated primarily to research and the dissemination of knowledge in relation to tuberculosis, and will be available to the whole of Scotland. An appeal has been prepared asking for £250,000, and in the document it is stated that research work is being carried on in public health and pathological institutes or laboratories in Scotland at present, but these have generally a recognised sphere of work, and there remains a large and useful field of operations for an institute of preventive medicine devoted primarily to research in relation to the prevention and cure of tuberculosis.

The equipment will, however, be sufficient for the simultaneous investigation of a number of other diseases, and a special department, with a small farm as an adjunct, will be necessary for the production and supply of curative serums and vaccines, for which the country is at present largely dependent on foreign sources.

Lord Provost Stevenson, who presided, said that the Corporation of Glasgow had approved of a grant of £5,000 to head the subscription list, and he had very little doubt that that would give a lead to the rest of the country, which would not fail, he hoped, to rise to the occasion.

Colonel King Stewart, convener of the County of Lanark, moved :—"That this meeting of representatives of burgh and county councils in Scotland and other public bodies approves of the appeal as submitted, and commends the same to the sympathetic and generous support of the people of Scotland."

Ex-Provost Keith, Hamilton, seconded, and the resolution was unanimously adopted.

Mr. James D. Borthwick, City Chamberlain, was appointed hon. treasurer of the fund.

THE WOMEN'S IMPERIAL HEALTH ASSOCIATION.—We have just received the second annual report of the Women's Imperial Health Association.

The first aim of the Association is to instruct the women of the Empire in the elementary principles of hygiene, and to impart knowledge regarding the care and nurture of children. To this end, instructive and educational meetings throughout London and the Provinces are being organised, with a view to raising the health standard of the nation; and local branches established where lecturers employed by this and other health associations can give practical talks or public addresses on such subjects as the following:—Feeding and rearing of children; infant mortality; value of open air; dust and disease; prevention of consumption; women's and maternity clubs; the care of mothers before and after confinement; crèches and their management; value of food-stuffs; sick-room cookery; personal hygiene; domestic hygiene; the health of girls; value of physical exercise; care of the teeth; care of the eyes; care of the ears; alcohol and its relation to health; how to assist sanitary inspectors and health officers.

Health caravan tours are being conducted through the villages and towns of England, the main object being to disseminate a knowledge of the principles of health amongst the women and girls of the country districts.

With these and similar aims the Association, as its name implies, is now an Imperial one, and it is hoped that by thus enlarging its field of work it shall, while keeping in view the needs of Great Britain, become acquainted with the health conditions of women and children in the Dominions beyond the seas, and be privileged to form branches of the Association all over the Empire.

The Association was founded under the name of the Women's National Health Association in the autumn of 1908, largely as the direct outcome of the splendid pioneer work in the cause of health conducted by the Women's National Health Association of Ireland, which owes so much of its success to the zeal and energy of its President—the Countess of Aberdeen.

The founders of the Association believed that even greater results might be realised in the larger field of Great Britain through the agency of an association with similar aims and objects. They were impressed with the conviction that the health and physical development of the future race depend largely upon the wide dissemination of the elementary laws of health amongst the women of the country, who alone have the power of translating these laws into the practical details of everyday life. The primary object, therefore, aimed at from the very outset has been the training of the mothers and future mothers of the nation in the elementary principles of personal and domestic hygiene.

To begin with, the work of the Association was almost entirely confined to health lectures given in the Metropolis. The audiences largely consisted of women and girls; and in many cases the halls were well filled with attentive audiences. As far as possible the lectures were illustrated with lantern slides, and probably for the first time in this country the cinematograph was utilised for educative purposes, and was found a most valuable means of attracting people who otherwise could not have been induced to attend. The Association was much indebted to the clergymen in the different parishes for their kind aid and co-operation, which contributed so much to making these lectures a success.

In February, 1910, the London County Council decided to permit certain cinematograph theatres to remain open on Sundays on condition that all profits were given to some recognised charitable society. The Women's National Health Association was one of the first to benefit financially by this new enactment, largely no doubt owing to the fact that from the very commencement the Executive Council of the Association appreciated the great educative influence which could be wielded by biograph demonstrations of health subjects.

The Association was originally formed under the title of "The Women's National Health Association of Great Britain," with the object of carrying out in England work similar to that being done by the "Women's National Health Association of Ireland:" but as there was some confusion with the "National Health Society," the title, after conference with representatives of that Society, was altered to "The Women's Imperial Health Association of Great Britain," a name which better describes the extended scope and Imperial aspects of the work now contemplated.

It has been incorporated as a registered Association by the Board of Trade, and accordingly it will be known henceforth as The Women's Imperial Health Association (Incorporated).

Anyone desirous of further information regarding the Association should communicate with the Secretary, 7 Hanover Square, London, W.

HIGHER FLIGHTS IN SURGERY.—The New York correspondent of the *Daily Telegraph* reports that "by means of an æroplane a doctor belonging to Hammondsport, in the State of New York, was able to fly to the bedside of a young patient 10 miles distant, and, by performing a surgical operation, possibly saved his life. A boy named Petrie fell down a stone stairway, fracturing his skull, and the parents immediately telephoned for Dr. Alden, of Hammondsport. Dr. Alden answered the message, but while he was proceeding at full speed in a motor car to the patient a wheel broke down. In the adjoining field was a man with an æroplane preparing to ascend. He agreed to take the doctor as a passenger, and they mounted into the air together. On landing, Dr. Alden hurried to the Petries' house and to the bedside of the boy, where he performed the operation. He said he would walk back. It was his first flight in an æroplane, and he declared that his experiences in mid-air were worse than seasickness."

There are no details given as to the nature of the operation. It is to be hoped that it was successful, but we cannot imagine that an experience worse than seasickness would be an appropriate preparation of the surgeon for even the slightest of operations.

This achievement on the part of our American *confrère* pales, however, before an item of news, also from "the other side," which we cull from a recent issue of the *Evening Times* (17th May):—

"'Surgery by wireless' is the latest. According to an American contemporary, a labourer on Swan Island, whose only connection with the outside world is by means of wireless telegraphy, had a foot crushed in an accident. There were no medical books at hand, and there was no one near who had any surgical experience. Thereupon the 'wireless' operator called up the surgeon of the nearest ship, and got him to explain in detail how an amputation should be carried out."

It would be interesting to learn how the case progressed. "Healing by first intention" would only be what one would expect.

OPERATIONS IN PRIVATE PRACTICE.—It is not so very long ago that the idea of "going into the infirmary" excited great apprehension in the breasts of the sick. Nowadays the difficulty is to find beds for the numerous applicants for indoor hospital treatment. And the reason is not far to seek. In pre-antiseptic days it was always questionable if the patient would come out cured, or even *in statu quo ante* —pyæmia and kindred scourges exacted a terrible toll. In those days a patient ran a better chance when treated in his own home, away from other sick people.

After Lister had revolutionised hospital practice, the dread of entering the infirmary vanished, and, to show how far the pendulum swung back, it came to be felt by the public that operations performed in hospital surroundings had more chance of being successful than when carried out in the patient's own home. This belief rested on the fact that in the hospital the surgeon had to his hand all the appliances which made for ease in operating and in after-treatment, and had also at command skilled nursing. The outcome was the evolution of the "nursing home" for those whose financial position precluded their entering a charitable institution.

With the march of time the equipment of the surgical departments of both hospital and nursing home has received great attention, and we venture to think that at the present day the money spent on operating theatres, both in their construction and running expenses, represents a large item in the total cost of institutions. One has only to go into the operating theatre of one of our up-to-date hospitals or nursing homes to see for himself the various costly articles of furniture, without which no theatre may be said to be complete.

Our attention has recently been again directed to the subject by the appearance of a small work [1] by Mr. Hamilton Whiteford, of Plymouth, entitled *An Operating Theatre in Private Practice.* In this *brochure* the author gives a description of an operating theatre built by him last year. The description has been written in the hope that, "to those surgeons who may be contemplating a similar work, the details may be of interest, and possibly of use."

The arrangements are well thought out, and show that Mr. Whiteford has not spared himself in trying to produce an ideal theatre.

There is no doubt that operating amid such surroundings as exist in a well-equipped theatre is conducive to the mental and bodily comfort of the surgeon, because, with a minimum of effort on his part the safety of the patient is, so far as is humanly possible, assured. But in this connection there are two dangers which must be mentioned. The first is that "ritual" and furnishings may come to replace what is much more important for the success of the operation, viz., a true understanding of the principles on which an aseptic result is based. It is no uncommon thing for the onlooker to see elaborate precautions counteracted by a break in the chain—a break which, though apparently trivial, may have a vital effect on the results of the operation. Some operators seem to expect an aseptic result *because* they are surrounded by aseptic furniture.

The second danger is that, if the modern theatre and its accessories are looked upon as *essential* to an aseptic result, an operation carried out amid less fortunate surroundings may be considered by the operator as a "forlorn hope," and ordinary precautions, founded on a knowledge of the principles of antisepsis, may be neglected, with a lamentable sequel. A knowledge of the principles on which Lister worked, and by following which he was able to revolutionise his results in the actual wards which had up till then reeked with pyæmia and kindred hospital plagues, will enable anyone to successfully carry out operative work in the patient's home.

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[1] London: Harrison & Sons, 1912.

We do not minimise the advantages of the modern theatre. We would rather work in it than outside: but we are convinced that if students were grounded in the principles of antisepsis (whereby asepsis is secured), and had borne in on them the possibilities which are attainable by adhering to these principles, it would be a benefit not only to themselves but to their future patients. It is not the modern theatre *per se* which is responsible for a good result—the result to a much greater extent depends upon the surgeon.

THE PRACTICAL SIGNIFICANCE OF PHYSIOLOGY—Messrs. J. & A. Churchill announce that they have just ready for publication an important new book of about 1,400 pages royal octavo, with 645 illustrations, by Professor E. H. Starling, F.R.S. The volume is entitled *Principles of Human Physiology*, and in the preface the author comments as follows on this work:—

"This mutual stimulation and co-operation among the different sciences have as their result a continual modification of our attitude with regard to the fundamental problems of physiology. The present time has seemed to me, therefore, fitting for the production of a text-book which, while not neglecting the data of physiology, should lay special stress on the significance of these data, and attempt to weave them into a fabric representing the principles which are guiding physiologists and physicians of the present day in their endeavours to extend the bounds of the known, and to increase their powers of control over the functions of living organisms."

Sun Yat Sen and the Awakening of China is the title of an important new volume by James Cantlie, M.A., M.B., F.R.C.S., Dean of the College of Medicine of Hong Kong (1889-1896), and C. Sheridan Jones, and announced by Messrs. Jarrold & Sons for immediate publication. Dr. Cantlie was for many years resident in China, and has been for over twenty years Sun Yat Sen's closest English Friend. Dr. Cantlie writes with the fullest intimate knowledge, and has been ably assisted by Mr. C. Sheridan Jones. The work includes some hitherto unpublished private letters and remarkable illustrations.

MONTHLY REVIEW OF MEDICAL LITERATURE.—We have recently had forwarded to us a prospectus of a new review, the *Bibliographische Monatsschrift für die gesammte Litteratur der Medizin*, published by Rettig and Kollmorgen in Hamburg (Königstrasse 31-35). In addition to all new publications which appear in book form, the *Review* will mention all articles appearing in the periodical literature of medicine. Its object is to furnish an "index of all the most important medical newspapers of the world."

There can be no doubt as to the help which such a publication will afford to all who may wish at any time to refer to the literature of any subject in which they may be interested.

SEVENTEENTH INTERNATIONAL CONGRESS OF MEDICINE, 1913.—The International Congress of Medicine holds its seventeenth meeting next year in London. The Congress meets in August, from 6th to 12th, and the committee have issued lists of sections and office-bearers and the provisional programme of business. General addresses will be delivered in Medicine by Professor Chauffard; Surgery, by Professor Harvey Cushing; Pathology, by Professor Ehrlich; Heredity, by W. Bateson, F.R.S.; and Public Health, by Right Hon. John Burns, M.P. The list of office-bearers in the twenty-three sections of the Congress is a long one, and includes many well-known names. The provisional programme of work is very comprehensive. Among other subjects for discussion we notice cancer, correlation of organs of internal secretions and their disturbances, differentiation of chronic arthrites, treatment of tumours of the brain, value of radiography of bones and joints in orthopædic surgery, scoliosis, salvarsan, pathology of deaf-mutism, treatment of throat, nose, and ear during the active stages of the exanthemata, antityphoid inoculation, &c.

The circular contains also the rules of the Congress and of the sections. Anyone desiring information should apply to the General Secretary, Dr. W. P. Herringham, 13 Hinde Street, London, W.

AMERICAN PROCTOLOGIC SOCIETY.—The fourteenth annual meeting of the American Proctologic Society was held at Atlantic City, N.J., on 3rd and 4th June. In the preliminary programme which was sent to us there was a long list of papers dealing with the medicine and surgery of the lower bowel.

We had on a former occasion (vol. lxxiv, p. 228) to notice at some length the papers read at the twelfth annual meeting of the Society, and our readers may recollect the amount of interesting material therein dealt with. We hope later to notice the *Transactions* of this year's meeting.

MEETINGS OF SOCIETIES.

MEDICO-CHIRURGICAL SOCIETY OF GLASGOW.

Session 1911-1912.

Meeting IX.—1st March, 1912.

The President, Dr. A. Freeland Fergus, *in the Chair.*

I.—CASE OF THOMSEN'S DISEASE.

By Dr. Leonard Findlay.

J. M'D., æt. 28 years, unmarried, and a car conductor by occupation, came to the Western Infirmary dispensary in January, 1912, complaining of stiffness of his legs on first commencing to move them after resting. He dates this illness from the age of six years when he went to school, and had to ascend stairs in order to reach his class-room. Then for the first time he noticed that on commencing to go up the stairs his legs, during the first two or three movements of ascent, became stiff and would not bend, and that he lagged behind the other boys; but very soon this disability would pass off, and he could run up the remaining portion of the stair as quickly as any of his classmates. This peculiarity of his muscular movements has persisted ever since, and of late years has, perhaps, got slightly worse; but has never been sufficient to incommode him, as he has been able to enjoy games like other boys. He has never had an accident which he can ascribe to it. His chief complaint is of embarrassment, because he thinks he looks foolish while going up stairs, and when he lags behind his companions turn round to see what is wrong. The muscles of his arms and shoulders are quite similarly (but to a less extent) affected. When accustomed to have a round at boxing, he usually had to take one or two blows before his arms got sufficiently suppled to enable him to guard off his opponent. He experiences the same stiffness in the muscles of the eyelids and jaw, but the muscles of deglutition, defecation, or micturition, are never affected. This stiffness of his muscles is unaccompanied by pain, and there is only one factor, viz., rest, which, so far as he knows, influences it. It is always present during the first two or three movements after a period of rest, be that period short or long. It is not made worse by excitement or fatigue, and is as bad in cold weather as in hot. With the exception of this peculiarity in his muscular actions, he has always enjoyed good health. There is no history of heredity. Patient is a well-developed, healthy, and muscular-looking individual, although his power is hardly commensurate with his muscular development. The myotonia can be easily induced in the muscles of his legs, arms, shoulder-girdle, and eyelids, by asking him to bring these various muscles suddenly and strongly into action after a period of rest. The relaxation is delayed for as long as six seconds after first contraction, and for a matter of three seconds after second contraction, but by the time he has performed the same movement three or four times all abnormality has disappeared. The same myotonic contraction can be brought about by direct stimulation of the muscle by tapping it, and with either the galvanic or faradic current; but not during reflex movements, as on eliciting the knee-jerks, the plantar or cremasteric reflexes. With a repetition of either direct or electrical stimulation the myotonia never disappears, as it does in the case of voluntary movement, but persists as long as one cares to repeat the stimulus. The creatinin excretion, which is supposed to be a gauge of the muscle tonus, or efficiency, is unduly high, creatinin co-efficients of 12 and 13 being obtained, instead of 7 and 11, as in the normal individual. There is no evidence of endogenous creatin excretion as occurs in the case of degenerating muscle, and thus we would conclude from these metabolism experiments that his disease is not of the nature of a degeneration of muscle.

II.—NOTE ON A CASE OF ELEPHANTIASIS OCCURRING IN THIS COUNTRY.

By Professor Walter K. Hunter.

Professor Hunter's communication will be published as an original article in a future issue of the *Journal.*

III.—NOTE ON TWO CASES OF GLANDULAR ENLARGEMENT—(I) HODGKIN'S DISEASE; (II) ENDOTHELIOMA.

By Professor Walter K. Hunter and Dr. J. H. M'Nicol.

This paper is published as an original article at p. 1 of this issue.

IV.—KERATITIS AS A CAUSE OF MYOPIA.

By Dr. J. A. Wilson.

Dr. Wilson's paper was published as an original article in the April number of this *Journal*, p. 241.

OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.

Session 1911-1912.

Meeting VII.—27th March, 1912.

The President, Dr. A. W. Russell, *in the Chair.*

I.—FRESH SPECIMENS.

1. Dr. Russell.—Two specimens of submucous fibroid.

2. Dr. Stark—(*a*) Uterine fibroid and ovarian fibroma; (*b*) pregnant uterus (beginning of fourth month) with fibroid tumour; (*c*) parovarian cyst; (*d*) fibro-adenoma in ovarian cyst.

3. Dr. Balfour Marshall showed a series of uterine fibroids.

4. Professor Munro Kerr—Uterine fibroid with gall-stones removed at time of operation.

5. Dr. W. D. Macfarlane, Jun.—(*a*) Melanotic sarcoma of clitoris; (*b*) missed abortion (two specimens); (*c*) three specimens of uterine fibroids; (*d*) carcinoma of cervix (pan-hysterectomy); (*e*) three cases of tubal pregnancy; (*f*) double pyosalpinx; (*g*) ovarian cyst with normal pregnancy (simulating ectopic gestation); (*h*) ovarian fibroid; (*i*) parovarian cyst.

II.—ADJOURNED DISCUSSION ON PUERPERAL INFECTION.

I. By Dr. G. Balfour Marshall.

Dr. Balfour Marshall said that the majority of febrile conditions during the puerperium were due to sepsis resulting from the infection of the wounds in the utero-vaginal canal by various micro-organisms usually introduced from without. The term puerperal fever should be abolished in favour of puerperal infection or sepsis, and as there were numerous clinical varieties of puerperal sepsis, local and general, these should be defined by their proper names, such as peritonitis, cellulitis, thrombophlebitis—examples of local conditions; or sapræmia, septicæmia, pyæmia, where the infection was general. Both local and general conditions might, however, co-exist.

The general practitioner was frequently blamed for puerperal sepsis, and the statement was made that sepsis could be abolished in private practice.

The hospital obstetrician had practically abolished it in the maternity hospitals, but in private practice the surroundings of the parturient women were only too frequently anything but ideal. Some of the worst cases that he had seen in consultation had never been examined, the labour being completed before the doctor's arrival, so the practitioner was by no means always to blame, although there was no doubt that some of them conducted their work with such a disregard of the elementary principles of asepsis that it was difficult to understand, in the light of modern teaching, how they could do so.

Dr. Jardine had stated that the vagina was, with few exceptions, sterile. Recent accurate culture methods had demonstrated that pyogenic streptococci, bacterium coli commune, and other organisms were not infrequently present in healthy pregnant women, especially in the lower part of the vagina, and organisms might even be found in the lower part of the cervical canal, especially if lacerations or erosions were present. There was, of course, general acknowledgement that the vulva swarmed with various germs. This showed the importance of the thorough cleansing of the vulva before every vaginal examination, and though it was not usual to cleanse the vagina, the fact that germs might be present in that canal showed the necessity of limiting vaginal examinations to one or at most two in a normal labour.

A factor that was apt to be overlooked in accounting for the presence of pathogenic organisms in the vagina was the indulging of coitus up to the end of pregnancy, a danger against which hundreds should be warned.

He had come across cases where husbands were so devoid of any feeling of decency as to indulge in marital relationship during the first week of the puerperium, causing hæmorrhage and sepsis.

After referring to the numerous sources by which puerperal sepsis could be carried to the uterus, Dr. Marshall discussed certain points in prophylaxis and treatment.

During pregnancy the resisting power of the patient should be improved by nourishing food, open-air exercise, and by living in well ventilated rooms. The kidneys should be well flushed. and thorough daily evacuation of the bowels should be ensured, especially towards the last weeks of pregnancy. Iron tonics should be prescribed for anæmic women.

If the practitioner would only realise that a case of labour should be conducted with the same care and the same regard as to asepsis and antisepsis in himself, nurse, assistants, and surroundings as a surgeon conducts a laparotomy, then there would be an enormous reduction in the number of cases of puerperal sepsis, if not their entire abolition.

There was no reason why the hand should not be introduced into the uterus with the same impunity that an abdominal surgeon explored the peritoneal cavity. To ensure this safety the whole lower genital tract should be made as aseptic as possible before intrauterine manipulations were carried out.

After labour all peroneal tears should be sutured, however trivial they might appear.

While he did not advocate early rising he regarded drainage as of great importance, and to ensure this patients should from the third day or earlier lie with the shoulders well raised, *i.e.*, in a modified Fowler position.

Vaginal douching was generally condemned, but recently Burckhardt and Kolb had advocated its use, having found in a series of cases that the douching reduced the morbidity. While this might be the case in skilled hands, Dr. Marshall still considered indiscriminate douching as fraught with danger, judging by cases of sepsis which could only be blamed on this procedure.

As regards treatment of septicæmia and pyæmia there were only one or two points he would like to refer to, as previous speakers had already covered the ground.

He had not been convinced that there was any value in either antistreptococci or polyvalent serum, and if used, the serum should only be tried in the early stages of the disease, and not repeated if no benefit resulted from the first injection. Stock vaccines were apparently worthless. An autogenous vaccine might be of great value, but unfortunately it took too long to prepare to be ready in time for treating acute cases.

Hysterectomy was not justified, and was useless in septicæmia, as the organisms had already entered the blood stream. In septic thrombophlebitis the affected pelvic veins had been ligated with good results in some cases, but as yet it was difficult to say when the operation was justifiable, although Blair Bell, with the experience of one successful case, inclined to the belief that this operation would become a routine one.

In conclusion, Dr. Marshall referred to gonorrhœa as a cause of puerperal mischief. This disease existing during pregnancy became more active during the puerperium, and a characteristic feature was the late onset of the symptoms; it might be not till the patient had left her bed, *i.e.*, after the tenth day.

Should the symptoms appear early in the puerperium, which might be the case, and suspicion not be aroused owing to the absence of ophthalmia in the child, it might be difficult or impossible to distinguish gonorrhœal infection from sepsis due to pyogenic organisms, as gonococci were difficult to detect in the lochia.

II. By Dr. W. D. Macfarlane, Jun.

The question of puerperal sepsis being an infectious disease in the category of diseases similar to scarlet fever was not to be entertained—the condition was a wound infection at some point of the parturient tract. Certainly rashes of a scarlatinaform appearance were seen in puerperal infection, but these were not scarlet fever, as one speaker had suggested. He had seen some cases of undoubted scarlet fever occurring during the puerperium, but there were cases of undoubted scarlet fever amongst inmates of the house at the time of delivery; the outlook in these cases was bad.

Prevention of puerperal infection was the important point to be aimed at—as perfect asepsis on the part of attendants as possible, the minimum of interference, and the more careful practical training of the midwife and medical student were the essentials. It had been said that practitioners of the old school were not so well acquainted with the aseptic midwifery of to-day in the same way that young graduates were; his experience was that the older the practitioner in attendance the risk of infection and injury to the patient was markedly lessened.

Greater facilities for the practice of obstetric operations should be given to the student while attending the Maternity Hospital; under the guidance of his teacher he should be taught the application of forceps and the delivery of the child on the cases in hospital, and not be required to have his first forceps case when going as an assistant in general practice with probably no one to help and guide him. Inexperience and hurry in delivery were two elements of the greatest danger to the patient. His experience entirely confirmed the remark that in country practice one saw less of puerperal infection; there was not the same rush and hurry as in city practice, and, consequently, less interference with the natural processes of labour.

During the past few years he had used polyvalent sera in twenty-five cases of puerperal sepsis, and in only two cases had he seen unquestionable benefit. The case which seemed to be greatly helped was one of acute puerperal infection, with an endocardial lesion, marked rigors, &c. Here three injections of large doses of Parke, Davis's polyvalent antistreptococci serum were used. The other case was one of acute sepsis, without marked local symptoms; there were repeated rigors, and after each injection the condition of the patient improved. Both these cases eventually made good recoveries.

The other cases, most of them seen several days after injection, received no benefit. Probably the use of any serum would have been unavailing considering the injury to the parts.

He had not always had cultures made of the secretions, as time was an important element, the patients being desperately ill. He had always used a polyvalent serum. In six cases where the secretion had been examined the infection was a mixed one, the streptococcic immensely predominating.

In three cases antistreptococcic serum had no effect on the patients' wellbeing.

He agreed that gonococcal infection appeared, as a rule, late in the puerperium; two such cases had occurred recently in his practice. The prognosis was good compared with other forms of infection, and should be treated expectantly, dealing at a future date with pus tubes if required. Surgical treatment had a limited field of usefulness. General peritonitis with effusion should be treated by drainage and the Fowler position. Hysterectomy, as a rule, was useless unless undertaken early in the disease, and the proper case was difficult of selection. He had opened the peritoneal cavity and drained, with good results, *per vaginam;* also, the case of the two pus tubes from a puerperal infection which he had shown to-night had made a good recovery by waiting for six weeks, and then performing a laparotomy with double salpingo-öophorectomy.

As regards puerperal septic thrombophlebitis, which manifested itself somewhat late in the puerperium by repeated rigors, he did not share the opinion of one of the speakers that surgical interference was useless. In one case he had, on the fourteenth day of the puerperium, performed laparotomy and removed thrombosed vessels from the broad ligament, the mischief being localised there. The result of the operation was extremely satisfactory, the rigors ceasing, temperature gradually falling, and the recovery, though slow, eventually good. More attention should be devoted to the surgical treatment of this class of puerperal infection.

III. By Dr. Munro Campbell.

Dr. Munro Campbell said that puerperal fever, so-called, was always puerperal sepsis. But only a small proportion of cases, one-third at most, were probably due to streptococci or staphylococci. Frequently the organism was bacillus coli or the gonococcus. Williams, in forty consecutive cases, found only eight due to streptococci and three to staphylococci; six were due to bacillus coli, and in eleven cases no organism could be discovered.

The examination of the patient in labour must be conducted with considerable aseptic care. Indiarubber gloves were useful, and must always be sterilised on the spot. But it was *more* important for the doctor never to handle "dirty" cases of any kind *without* gloves than to examine "clean" ones *with* gloves.

In every case of fever after labour the safest rule was for the doctor to hold himself guilty of septic infection till he was proved innocent. In every case of fever after labour it was wise to call it sepsis and treat it as that, rather than attribute it to chill, influenza, or other useful subterfuge.

In treatment, polyvalent antistreptococcic serum was certainly sometimes useful, but the discharges and blood must be examined.

IV. By Dr. William Ritchie.

Dr. William Ritchie said that the discussion on puerperal sepsis had been of great academic interest, but what were the practical suggestions of the contributors which would in any way diminish the prevalence of this undoubtedly preventible disease. They were—an appeal from Dr. Chalmers to the Society to assist in having the Midwives Bill made applicable to Scotland, and to provide proper equipment for parturient women: the advocacy by another speaker of the use of rubber gloves; and, lastly, by many speakers, that the student should receive more clinical instruction than at present. If all these proposals were carried out there would still be puerperal sepsis. The Midwives Bill, the provision of equipment, and the use of rubber gloves would to a certain extent help, but the extra instruction to students, though very necessary, was regarded with exaggerated importance.

Most of the speakers maintained that if the medical student was taught the asepsis of midwifery as thoroughly as he is taught the asepsis of surgery, the reduction in the amount of puerperal sepsis would be very great. This he did not accept, because those members of the profession, and he believed they were comparatively few, who were careless of their asepsis in midwifery were equally careless of their surgical asepsis, even although they were properly instructed in that branch of their work.

The question of the abolition of puerperal sepsis was an economic one. Till men were doing midwifery, and midwifery alone, we would still have puerperal sepsis with us. He knew of a case of puerperal sepsis which occurred in the practice of a well-known obstetrician and gynæcologist, the labour occurring a few days after he had operated on a bad pyosalpinx. If puerperal sepsis was to be abolished gynæcologists should not be obstetricians, nor should general practitioners. How could a general practitioner be expected to adopt the advice of Dr. Jardine, to "leave labour to nature so long as there are no indications for interference," if he had a score of visits daily and about two hundred confinements yearly? And how could he avoid having puerperal sepsis in his practice when he was constantly attending septic surgical cases? When the medical millennium arrives no man who did obstetrical practice would engage in any other. This might be Utopian, but until such conditions prevailed we would still be lamenting the prevalence of puerperal sepsis.

V. By Dr. A. W. Russell.

The President, in concluding the discussion, said that the Society was indebted to Dr. Johnston, and also to Dr. Chalmers, for attending at the invitation of the Council to give their experiences and views of puerperal sepsis from their special standpoints. Some interesting practical points had emerged, both from their communications and from the views expressed by all the others who had taken part in the discussion. As there was no time left to formulate any definite line of action that the Society might adopt as a practical outcome of the whole discussion, Dr. Russell proposed that it be remitted to the Council to consider this, and report to a future meeting.

SCOTTISH OTOLOGICAL AND LARYNGOLOGICAL SOCIETY.

The fourth meeting was held in the Glasgow Royal Infirmary on Saturday, 11th May, 1912, under the chairmanship of Dr. J. Kerr Love.

There were present 23 members and 14 guests.

Dr. Kerr Love gave a short but most interesting survey of the oral method of educating the deaf, drawing special attention to the value of remains of hearing in the retention or acquisition of speech by those who have become deaf in early childhood. Some people were inclined to think that the expense and trouble of teaching deaf-mutes to lip-read and to speak were not compensated for by the degree and quality of speech attained to, but he did not think that one was justified in expecting such a high standard that the subject could go about as the normal hearing person, and make himself understood to the same extent. Yet it could not be gainsaid that the power of being able to converse with those about him, and of being able to comprehend their wants and make known his own in a language which all understood, was of inestimable value, even if he could not make out what was said from the pulpit, or speak sufficiently clearly to the booking-clerk at a railway station. Dr. Love protested against the popular idea that deaf-mutes are mentally deficient. There was not a greater proportion of such among them than among hearing children. Unless there were other stigmata of mental deficiency, one had no right to put deaf-mutes in this category. They were quite as sharp, and capable of as great development, as normally hearing children. This was borne out by the children who were present to illustrate his remarks. With the assistance of Miss Douglas, a teacher of the deaf, a demonstration of the method of teaching lip-reading and speech was given, some of the children showing remarkable ability and intelligence. Attention, too, was drawn to the pleasanter and more modulated voice of those in whom there was some residual hearing.

The demonstration was much appreciated by those present, and the thanks of the Society were accorded to Dr. Love, and to Miss Douglas for the trouble she had taken in bringing the children, and in showing what the oral method made possible for deaf-mutes.

Dr. J. S. Fraser gave a lantern demonstration of the inner ear from cases of congenital deafness, showing the changes which were found, especially in the organ of Corti, Reisner's membrane, and membrana tectoria.

Dr. Albert Gray gave a lantern demonstration of the changes in the ear in otosclerosis, showing the changes in the labyrinthine capsule, especially in the neighbourhood of the oval window. He referred briefly to the various theories of the causation of this condition, and remarked that the difficulties were not yet solved, and that much more work would be required before they were. There were no demonstrable changes in the nerves in uncomplicated cases of otosclerosis. While he agreed with Dr. Fraser that some cases probably arose secondarily to middle-ear conditions such as suppuration, the majority, he thought, had not a middle-ear origin.

Dr. Kerr Love showed two patients who had been operated on for brain abscess complicating middle-ear suppuration, one a cerebral and the other a cerebellar abscess. He also showed a man whose left external ear and surrounding structures he had removed six months ago for malignant disease. A recurrence in the mastoid process had since been removed together with the bone. Since then x-ray treatment had been adopted. However, he was not hopeful, and it was possible that already there was glandular involvement, as Dr. Turner suggested.

Dr. James Adam showed a woman with a bony swelling on either upper jaw, involving the alveolus and the anterior antral wall. He considered these growths to be of the nature of hyperplastic osteitis of infective origin.

Several members looked upon them as dentigerous cysts, while *Dr. Kelly* suggested that from the symmetry it might be leontiasis ossea.

Dr. Adam also showed a patient, a female, with a well-marked tortuous carotid on the posterior pharyngeal wall. He also brought before the Society two boys under treatment by split toothplates to widen the nasal passages. In one boy, aged 15 years, the palate had expanded 4 mm. in four months, and in the other, aged 10 years, 7 mm. in five months. In both, the benefit to the nasal respiration appeared to be decided.

A discussion ensued as to the nature of this expansion, *Dr. Turner* expressing the view which was held in America, where this method had had more extended trial, that there was separation of the intermaxillary suture.

Dr. P. N. Grant showed two patients with ulceration of various parts of the nose, one showing a pure pneumococcal infection, the other a mixed infection, pneumococcus and other organisms. Both were under treatment by vaccines.

Some members considered the former case, at any rate, to be syphilitic.

Dr. Walker Downie showed a female, aged 42 years, with an extensive venous angeioma affecting the right side of the forehead, nose, upper lip, and right half of palate. The condition had been stationary for twenty years till a few weeks ago, when the lip portion began to extend. He also showed another case with a swelling on the left side of the nose externally. He was doubtful whether it was a sebaceous cyst, a lipoma, or a venous condition, but on puncturing it was found to be the last.

Dr. J. G. Connal showed a patient on whom he had operated for septic thrombosis of the lateral sinus with extradural abscess, consequent on middle-ear suppuration. The external jugular was tied and the sinus opened and drained.

He also showed a man with a large exostosis of the external auditory meatus. There was still a small chink so that the patient heard fairly well. As there were no disturbing symptoms he did not think operation was called for.

Dr. Brown Kelly showed four patients illustrating the value of the direct method in the diagnosis of laryngeal conditions. Two of these, brothers, aged 3 years and 5 years, were the subjects of prolonged adductor spasm. The children are much below the normal size, are very rickety, and show signs of delayed mental development. In the younger boy the respiration became so difficult that tracheotomy had to be performed. The condition was at first thought to be abductor paralysis, but as improvement had taken place no doubt the designation adductor spasm was correct. A twin brother of the older boy who had had crowing at night on several occasions was also examined, but nothing abnormal was found.

Dr. Syme referred to the great interest of these two cases with reference to the general question of laryngeal stridor in children. He thought it would be found, now that the direct method of examination was available, that many cases of so-called laryngismus stridulus were really examples of adductor spasm of central origin, and not due to structural alterations or defects in the framework of the larynx.

Dr. Fullerton referred to an interesting case of probably similar nature which had come under his observation, and which he had reported at length some time ago.

Dr. Adam looked upon the condition as related to asthma, and due in great measure to errors in feeding.

Dr. Kelly's third case was also one of laryngeal stridor, but in this case, an infant of 20 months, direct laryngoscopy showed a long tapering epiglottis rolled backwards, so as to bring the ary-epiglottic folds almost into apposition. During inspiration the arytenoids were drawn forward, the flaccid tissue on their summits was made to vibrate, and the glottis was reduced to a small quadrilateral chink.

Dr. Turner discussed the actual cause of the stridor in cases of this nature.

The fourth case shown by Dr. Kelly was one of compression of the bronchi and œsophagus in a man of 27 years. Examination of the larynx revealed left recurrent paralysis. Bronchoscopy showed occlusion of the left main bronchus and flattening of the right. On œsophagoscopy the œsophagus was seen to be obstructed by a smooth lobed bulging of the anterior wall. There was no abnormal pulsation to be seen anywhere. The underlying disease was probably a rapidly growing neoplasm of the posterior mediastinum. Examination for tubercle was negative.

Dr. Fraser referred to a case showing somewhat similar conditions on bronchoscopy, which, on *post-mortem* examination, proved to be a sarcoma of the mediastinum.

Dr. Brown Kelly also showed an infant of 4 months suffering from a gonococcal infection of the nose.

Dr. W. S. Syme showed an infant of 2 months with bony occlusion of the posterior nares. The mother's attention was drawn to the nasal obstruction by the fact that the child was unable to breathe when taking the breast. The nostrils contained sticky purulent discharge, and with a probe the bony diaphragm could be distinctly felt. The probe could not be passed into the nasopharynx. It was thought that at present, at anyrate, operation would lead to no satisfactory result.

Dr. Syme also showed a boy with congenital fenestration of the faucial pillars. He had suffered from no inflammatory affection of his throat.

Dr. Syme reported a fatal case of abscess of the brain, and lepto-meningitis as a complication of posterior ethmoidal and sphenoidal disease. The patient, a woman of 25 years, had suffered from post-nasal discharge for some years. A month previous to coming to hospital she developed severe headache, rigors, and vomiting. There was found destruction of the roof of the ethmoid and a ragged opening in the dura, through which necrosed portions of the brain protruded. The probe passed into a deep-seated abscess cavity. The question of reaching this by an external operation was considered, but, in view of its position and of the great probability of concomitant meningitis, this was negatived. *Post-mortem* examination showed a large opening in the roof of the posterior ethmoidal cell, destruction of the dura and of the surface of the brain in the neighbourhood, and a narrow abscess cavity leading from this part, just beneath the under surface of the frontal lobe, backwards till it opened into the third ventricle.

The members and friends afterwards dined together.

It was decided to hold the next meeting in November in the Royal Infirmary, Edinburgh, under the chairmanship of Dr. J. S. Fraser.

REVIEWS.

Auto-Inoculation in Pulmonary Tuberculosis. By MARCUS PATERSON, M.B., B.S., M.R.C.S., L.R.C.P. London: James Nisbet & Co., Limited. 1911.

THIS is an original and thoughtful work by one who has dared to look at phthisis and its treatment with his own eyes instead of through the spectacles of others. Though more or less familiar with the pioneering that has been going on at Frimley, we rose from a perusal of this book with not only new conceptions as to the disease and its management, but also with a rekindled enthusiasm, and a determination to maintain an open mind on many subjects that ought still to be matter of dispute. Dr. Paterson, if ever bound, has escaped from the thraldom of traditional authority and prejudice. His shrewd commonsense and trenchant criticism are most stimulating, and must start processes of thought in even the dullest of readers. No one, be he general practitioner or sanatorium superintendent, but will suck information and inspiration out of this work "as a weasel sucks eggs."

Physical signs and bacilli have too long obsessed physicians, and there is everything to be said for Dr. Paterson's view that, unless a patient suffers from symptoms of tuberculin intoxication, no matter how extensive the cavitation in the lungs—how numerous the bacilli in the sputum—how frequent and severe the attacks of hæmoptysis, he is no more a victim of active tuberculosis than a typhoid-carrier is an example of enteric fever.

There is no royal road to the cure of phthisis, and Dr.

Paterson does not make it any easier for us. His theory of auto-inoculation is, in the meantime, in accord with our knowledge, and supplies the best of working hypotheses. Hitherto the aim in treatment has too often been to avoid auto-inoculations, but here we are shown how these may be regulated and utilised; and how even an excessive auto-inoculation, instead of being regarded as a disastrous breakdown in our system necessitating a return to the very beginning, is a blessing in disguise, and, within certain limits, and with the precautions indicated by the author, to be played for and turned to account when it occurs.

We wonder how many institutional physicians, who profess to carry out Frimley methods, have thoroughly grasped the distinction between "rest" and "complete immobilisation"? If proof were needed that many sanatoria are inefficiently conducted, this work supplies it.

The book is lavishly illustrated with charts and photographs, and the general get-up is luxurious. All the same, we cannot but regret that Dr. Paterson has issued his *magnum opus* in the form of a demy quarto: for, had he seen fit to but halve the size of both print and price, he could easily have more than doubled the circulation of what, by rights, should be in the hands of all.

Alcoholic Fermentation. By ARTHUR HARDEN, Ph.D., D.Sc., F.R.S. London: Longmans, Green & Co. 1911.

THIS is one of a series of monographs on biochemistry, and like a companion volume on fats recently reviewed here, is of a highly technical description.

The book is based on courses of lectures delivered at London University and the Royal Institution during 1909-1910. It shows how complex the subject of alcoholic fermentation is, and how much research has taken place upon it; and it shows very clearly that though our knowledge has advanced slightly since Buchner discovered zymase in 1897, we remain very ignorant of the exact chemistry and mechanism of the process.

The first chapter is historical, and is very readably written. The second chapter deals with the discovery of zymase, its preparation and action. Then we have the function of phosphates, the co-enzyme of yeast juice, the action of some inhibiting and accelerating agents on the enzymes of yeast juice, the bye-products of alcoholic fermentation, the chemical changes involved in fermentation, and, finally, the mechanism of fermentation. The last two chapters are disappointing both in matter and manner, but Dr. Harden has, of course, to do the best he can with the materials at hand, and it is difficult to set out clearly a number of conflicting theories.

There is a bibliography at the end containing 272 references. The book is an exposition of the present position of the subject, and will be valuable to students of this subject.

The Journal of Vaccine Therapy. Edited by R. W. ALLEN, M.D. Vol. I, No. 1, January, 1912. London: H. K. Lewis.

WE are glad to welcome the appearance of the first number of *The Journal of Vaccine Therapy.* The subject has already a literature so extensive that it is time that it should have a journal of its own, to which the numerous practitioners who avail themselves of this means of treatment should be able to look for authoritative articles upon its scope. The number opens well with an interesting article on the pathogenesis of rheumatic fever and its treatment by vaccines, written by Dr. R. J. M. Buchanan, who has obtained admirable results in a considerable series of cases by injection of a *streptococcus rheumaticus* vaccine. In these cases not only the joint affection, but also recent cardiac complications and rheumatic chorea have yielded to the treatment, which compares very favourably with the ordinary treatment by salicylates. Other articles of equal interest are contributed by Dr. F. J. Sadler, who writes on the vaccine treatment of typhoid fever, and by Dr. R. W. Allen, whose subject is the causation and treatment of acne. The journal begins its career with every promise of success.

Vaccine Therapy: Its Administration, Value, and Limitations. A discussion opened by SIR ALMROTH E. WRIGHT, M.D., F.R.S. London: Longmans, Green & Co. 1910.

"THIS volume contains the report of the second general discussion held by the Royal Society of Medicine. It was considered that the time had come when a full statement as to the value of vaccine therapy, as far as is known at present, would be welcome," and we have here the opinions of thirty-four physicians and pathologists, who have "during the past few years devoted themselves to special work in this branch."

There is in these proceedings an enormous wealth of information, which is rendered easily accessible by the presence of a well-compiled index, and we feel sure that the hope of the editor will be realised:—"That the present publication will be of great service to practitioners in general, giving them a clear idea of the scope and aims of the method and the results hitherto achieved."

Fourth Report of the Wellcome Tropical Research Laboratories at the Gordon Memorial College, Khartoum. Volume A—Medical: Volume B—General Science. Also, the *Second Review of Recent Advances in Tropical Medicine, &c.*, being the Supplement to the Fourth Report of the Laboratories as above. London: Baillière, Tindall & Cox. 1911.

It is frankly impossible to bestow too much praise on these productions—alike in matter, manner of presentation, and production they form the finest compendium of recent work of this kind ever published. The illustrations alone, including numerous beautifully-executed coloured plates, are superb, and bear eloquent testimony to the fact that almost no trouble has been spared to secure results which must form a lasting record.

The subjects dealt with are so numerous and diverse that it is quite impossible in the limits of an ordinary review to do anything like adequate justice to the various contributions, and it is necessary to limit detailed notice to a selection only of the papers embodied in the Report and Supplement.

To Dr. Andrew Balfour, the director of the Laboratories, special praise is due, and he has been ably seconded by his skilled and trained staff.

In "Volume A" the contributions specially worthy of notice are:—

"Sleeping Sickness in the Anglo-Egyptian Sudan," by Colonel Mathias, D.S.O. Illustrated by a number of maps and photographs, this article is perhaps specially interesting from the geographical standpoint. Captain W. B. Fry's article on "Animal Trypanosomiasis" in the same region is also a most interesting and instructive one, and the illustrative plates are of the highest merit. As might be expected, a number of articles appear dealing with this disease, and all will repay careful perusal. The director's contribution on "The Spirochæte of Egyptian Relapsing Fever," and the question as to whether the spirochæte described is a specific entity, has an added interest from the very full list of references subjoined.

In the same volume the article which will possibly appeal most of all to the scientific worker in this country is that on "Fallacies and Puzzles in Blood Examination." Dr. Balfour does well to point out in this article the grave danger to science which results from imperfect and inadequate observations on supposed abnormal pictures in blood films. Every worker in hæmatology knows how frequent these ghosts and artefacts are in practice, and how difficult it is in many cases to decide as to their exact origin. Artificial poikilocytosis is, perhaps, one of the commonest errors obtained in this way, although foreign bodies of diverse nature sometimes lead to difficulty. The illustrations to this article, while of the same standard of excellence as the others throughout, suffer in this respect that the pictures are not those of human blood.

The series of articles on "Kala Azar" and the blood changes found in this disease are particularly exhaustive. In this connection the actual leucopenia found was not so extreme as some cases which have been examined in this country. One of the cases of "Kala Azar" was treated by "606" given intra-muscularly, but, although some improvement ensued, no definite result was obtained for future guidance.

The article on "Non-ulcerating Oriental Sore" is illustrated by a specially fine series of photographs and photomicrographs. The same remark applies to the paper on "Two Cases of Veldt Sore" treated by autogenous vaccines with apparently rapidly beneficial results.

A number of short articles on various fevers in the Sudan open up wide avenues for future investigation. Dealing with diphtheria in the tropics, the director raises the question as to whether there is a definite *coccal* form of the diphtheria bacillus.

The latter part of this volume deals more especially with the public health aspects of the work, including the important item of water supply and distribution.

The "Veterinary and Miscellaneous Notes" are also contributed by the director. Under "Miscellaneous Notes" are described various abnormal bodies found in the human blood and lymphoid follicles of the intestine. Mycetoma and leprosy are also included.

In "Volume B" are a number of articles of greater general interest, including those on the water supply of Khartoum, experiments on the gum-production in Kordofan, &c.

The "Report of the Entomological Section of the Laboratories," by Harold H. King, is remarkable for its exhaustive nature, as well as for the exquisite plates in natural colours which accompany it. Much work has yet to be done in this section, however.

The contribution by A. L. Butler on "The Birds Injurious to Grain Crops" is on a level with Mr. King's article, and the same may be said with regard to that on "Scorpions and Allied Annulated Spiders of the Anglo-Egyptian Sudan," by Professor Werner.

It is remarkable to find, from the article by Stanley C. Dunn, Sudan Government geologist, that gold mining was at one time almost a "staple industry" in this part of the world. The methods were, naturally perhaps, primitive in the light of modern appliances: but the fact itself is almost startling at first sight.

The article on "Some Tribal Customs in their Relation to Medicine and Morals" of certain inhabitants of the Eastern Bahr-el-Ghazal, will be read with very great interest by many outside the circle of medicine and the allied sciences. Captain R. C. Anderson has given us in this article a fascinating study of the inner life of the inhabitants of these regions, and here, again, the photographic illustrations add very considerably to the value of the text.

"Volume B" concludes with an article on "Some Municipal Engineering Problems in the Tropics," and this article serves to show the many fundamental difficulties underlying these problems—difficulties which do not appear in similar work in this country at all events.

The *Second Review of Recent Advances in Tropical Medicine* has no illustrations, and is for convenience arranged alphabetically. It contains a wealth of information which almost entitles it to the term of "Dictionary of Tropical Medicine." It is impossible to quote all the subjects dealt with, but as examples may be mentioned the following:—

Ankylostomiasis, anthrax, beri-beri, black-water fever, cerebro-spinal fever, cholera, diphtheria, dysentery, enteric fever, hæmatozoa, hydatid disease, hydrophobia, insects, leprosy, malaria, malta fever, mosquitoes, ophthalmia, oriental sore, parasites, pellagra, piroplasmosis, plague, schistosomiasis (bilharziasis), sleeping sickness, snake bite, spirochætosis, sprue, syphilis, ticks, trypanosomiasis, tuberculosis, typhus fever, veterinary diseases, water, and yellow fever. It will thus be evident that the ground covered is extensive, and yet all the subjects receive fairly ample treatment.

Enough has been said to show that the three volumes together form a monumental work which should be at the call of the profession as a whole. With the facilities for travel in Egypt, now so largely taken advantage of, it is imperative that every medical practitioner in this country should have some conception of the work which is being done in what is, in all but name, one of our colonies.

Consumption: Treatment at Home and Rules for Living. By H. WARREN CROWE, M.D.(Oxon.). Third edition. Bristol: John Wright & Sons, Limited. 1912.

THE sensible and easily-comprehended rules here laid down are specially designed to meet the needs of the consumptive who has not served an apprenticeship to correct living in a sanatorium. We welcomed this little book (price one shilling) when it first appeared, and again cordially recommend it as a suitable guide for physicians to place in the hands of their patients.

Disease of the Pancreas: Its Cause and Nature. By EUGENE L. OPIE. Second Edition, Rewritten. Illustrated. Philadelphia and London: J. B. Lippincott Company. 1910.

WHEN Dr. Opie's work first appeared we accorded it a very hearty welcome, and for this, the second edition, we have nothing but praise. Everyone who would know pancreatic disease must make himself acquainted with this, the best of monographs.

"In the first edition of this book diseases dependent upon the peculiar physiology of the pancreas, namely, hemorrhagic necrosis (acute hemorrhagic pancreatitis), fat necrosis, and diabetes mellitus, received special attention, whereas little space was given to those lesions which resemble similar changes of other organs. During the past seven years abundant data have been collected by many observers with the purpose of testing various hypotheses proposed to explain the normal or diseased activity of the gland. This wealth of material has necessitated a systematic review of the entire subject, but in the present edition, as in the first, detailed discussion has been devoted to those conditions which are as yet obscure. For this reason hemorrhagic necrosis, chronic pancreatitis, and the pancreatic pathology of diabetes mellitus have been described with much detail. The attempt has been made to collect and classify those observations which may serve as a basis for further advance in the knowledge of pancreatic disease."

Feeble-mindedness in Children of School Age. By C. PAGET LAPAGE, M.D., M.R.C.P. Manchester: At the University Press. 1911.

THE book is intended for school medical officers, and teachers or social workers who have to do with the feeble-minded. The writer has aimed further at emphasising the importance of the subject, the fact that feeble-mindedness is hereditary, and the need for life-long care and control. The style is popular, and the contents will be readily understood by the lay reader. The chapters on the cell, reproduction, and heredity, and on the inherited causes of feeble-mindedness, are alone sufficient to justify the hope that the book will be widely read. There is a good deal that will seem elementary to the school medical officer; but, on the other hand, he will find many helpful suggestions. There are one or two inaccuracies, the only one of practical importance being that the incubation period of measles is three weeks (p. 171).

In the introductory chapter there is a historical survey, including an account of some of the conclusions and recommendations of the Royal Commission on the Care and Control of the Feeble-minded. There is a chapter on each of the following subjects, in addition to those already mentioned: —The physical and the mental characteristics of feeble-minded children, speech defects, special types of feeble-mindedness, diagnosis, prognosis, treatment, and care. There is further a short account of the condition of the brain in feeble-mindedness. Preventive measures, and general social considerations, complete the main part of the volume.

There are several appendices; the first by Miss Mary Dendy, M.A., on the training and management of feeble-minded children; in the second and third, respectively, are described the detailed examination of the head and of speech; in the fourth are given the form and certificate used by the Manchester Education Committee in the examination of children for admission to special schools or institutions; in the fifth a list of homes and institutions for the feeble-minded. There is a glossary of the medical terms used in the book (but, as already indicated, these have been reduced to a minimum), a bibliography, and an index.

Dental Disease in its Relation to General Medicine. By J. F. Colyer, L.D.S., with the assistance of Stanley Colyer, M.D.Lond., D.P.H. London: Longmans, Green & Co. 1911.

The attention which has been of late so conspicuously devoted to the part played by the teeth in the production of general diseases finds its fitting expression in the volume before us, in which a dental surgeon collaborates with a medical officer of health. The place of oral sepsis in the etiology of such grave conditions as pernicious anæmia is now widely recognised, but the able discussion of the whole subject by the Messrs. Colyer indicates that the number of maladies for which it may at least occasionally be responsible is greater than is generally supposed. Many subjects of much importance to the practitioner, and especially to the pædiatrist, are interestingly treated. As the result of a reaction from the popularly prevalent view that almost every infantile disorder may be put down to teething, the influence of dentition upon the general health is probably too slightingly considered at the present time; but the Messrs. Colyer show how not only grave local affections, such as ulcerative stomatis, but also a number of reflex disorders, may arise from it. It should be widely known, too, that the excessive use of "baby comforters," or the formation of bad habits, such as finger-sucking or lip-sucking, may lead to permanent malformation of the dental arch. The subject of dental caries is very fully dealt with, and its cause is traced to acid formation, the main source of the acid being bacterial fermentation of the carbohydrate elements of the food in a state of solution. The mere softness of the food, due to the present methods of preparation and cooking, is not in itself a sufficient explanation of the increasing prevalence of caries; but carbohydrates, as at present used, are shown to be more soluble and fermentable than heretofore. The prevention of caries, therefore, depends on leaving the mouth free from fermentable carbohydrates after meals by careful cleansing, and also by so arranging the meals that they finish either with a proteid or with fresh fruits, which contain very little fermentable carbohydrate. Pyorrhœa alveolaris receives considerable attention, and the consequences of its neglect, both as producing general diseases and as causing absorption of the alveolar margin, are fully discussed. The volume, which is well and abundantly illustrated, is one of much interest, not only to the dental surgeon, but to all who are concerned in the treatment and prevention of disease.

The Goulstonian Lectures on the Sensibility of the Alimentary Canal. By ARTHUR F. HERTZ, M.A., M.D. (Oxon.), F.R.C.P. London: Henry Frowde and Hodder & Stoughton. 1911.

"WITH the exception of a short addition to the chapter on hunger, made in accordance with a suggestion of Sir William Allchin, and the references to the work of Weber, Steinhäuser, Glücksmann, and Kast and Meltzer, this book is a reprint of the Goulstonian Lectures, as they were delivered in March, 1911, before the Royal College of Physicians, and published in *The Lancet* in April and May, 1911." The subject is discussed under the following headings:—Tactile sensibility; thermal sensibility; sensations produced by chemical stimulation; the sensation of fulness and distension; the sensation of emptiness and hunger; pain; and variations in the sensibility of the alimentary canal. The results are summarised for easy reference in two pages of "conclusions," and there are indices of authors and subjects.

This experimental and clinical investigation into all these questions, both in health and disease, is just what was wanted to dispel that vagueness of thought and expression so characteristic of but too many physicians and surgeons when dealing with visceral sensations. Dr. Hertz's work not only exposes fallacies, but brings forward fresh facts and interpretations explaining much that has hitherto been a mystery, and provides us with a standpoint from which it is possible to take an intelligent view of the symptoms of abdominal disease.

ABSTRACTS FROM CURRENT MEDICAL LITERATURE.

EDITED BY ROY F. YOUNG, M.B., B.C.

MEDICINE.

Arneth's Nucleo-Analytical Method as applied to the Eosinophiles. By J. F. Hultgen, M.D., Chicago (*New York Medical Journal*, 27th January, 1912).—Dr. Hultgen's work is undertaken to show that while Dr. J. Arneth's work on the eosinophile cells of the blood is statistically correct and of interest scientifically, his conclusions drawn from it are groundless.

About a year ago Dr. J. Arneth published an article in which he asserted that the eosinophile leucocytes, in their cycle of development, change progressively from nuclear monomorphism to nuclear polymorphism. He took it for granted that a single nucleus was a sign of youth, and a multilobed nucleus a sign of more advanced or adult age. His article covered only fifty blood counts.

Dr. Hultgen's work consists in a refutation of this thesis. He arranges the eosinophile cells in five classes according to the shape of their nuclei :—

Class A consists of cells with a single round nucleus.

Class B with an oblong, elongated, or uniform single nucleus.

Class C with a distinctly bilobed, saddlebag-shaped or dimorphous nucleus.

Class D with a trilobed, trisegmented polymorphous nucleus.

Class E includes all cells containing nuclei with four or more lobes.

Five hundred and seventy counts were made between 15th January and 9th October, 1911. His initial line of enquiry consisted in sub-dividing these counts into seven different divisions, the first showing these counts up to and including 0·5 per cent of eosinophiles, the second to the seventh showing 2, 3, 4, 5, and over 5 per cent respectively.

On studying these he expected that if youth and monomorphism of the eosinophiles went hand in hand, those counts, chiefly found in divisions one and two, which were taken from patients convalescing from some infection or intoxication, would show a great preponderance of young eosinophiles, and that those taken from normal or irrelevant conditions (divisions three and four) would show at least a larger proportion of adult or polymorphous eosinophiles. If, on the other hand, he found that there was no difference between the counts in hypo- and hypereosinophilia, that there would be no relation between nuclear monomorphism and the age of the cell.

The seven different classes are tabulated, and the percentages of the different nuclear classes (A to E) found in each are given. Two charts are also drawn up to graphically represent his findings. The charts and the table show definitely that the percentage of different nuclear forms is practically identical in all the seven classes of blood-count, and that Class C is the most prevalent nuclear form no matter whether there is hyper- or hypocytosis. The tables are given fully, and a comparison between his actual results and those of Dr. Arneth is also appended, showing the close correspondence of their figures.

Dr. Hultgen's total qualitative sub-divisions, first table and chart, show the following percentages :—

Class A.	Class B.	Class C.	Class D.	Class E.
3·8	9·53	70·75	14·8	1·12

The total quantitative sub-divisions, second table and chart :—

Class A.	Class B.	Class C.	Class D.	Class E.
4·03	10·04	68·65	15·9	1·02

From a study of the tables and charts Dr. Hultgen draws the following conclusions, amongst others :—

1. The eosinophiles show no progressive development from monomorphism to polymorphism, except in leukæmic states.
2. The five classes of eosinophile nuclei occur constantly and with remarkable uniformity under most varied conditions.
3. We may accept Class C, containing a distinctly bilobed or bipartite nucleus as the normal eosinophile, as the form occurring constantly and with regular predominance in all persons well or unwell.
4. Since the morphology of the nucleus bears little or no relation to the origin, size, age, or function of the eosinophile leucocytes, Dr. Arneth's nucleo-analytical method lacks a biological foundation, and is therefore not applicable to these cells.—J. R. C. Greenlees.

A Contribution to the Etiology of Little's Disease. By M. L. Babonneix (*Gazette des Hôpitaux*, 26th March, 1912).—Various infective diseases occurring during the course of pregnancy are mentioned in most treatises as efficient causes of congenital paraplegic rigidity, notably tubercle, syphilis, erysipelas, and cholera. To this list mumps must be added, as exemplified by the following case :—

A healthy woman, while five months pregnant, was seized with an attack of mumps, from which she made a good recovery. She noticed that during the febrile period of the disease the active fœtal movements disappeared, but delivery occurred quite normally three and a half months later. When her child was 4 months old she took it to Professor Hutinel, who found that it was suffering from Little's disease. There was generalised rigidity of the neck and limbs, with exaggeration of the tendon reflexes, but neither convulsions, athetoid movements, nor mental disturbance. Subsequently the nervous phenomena were gradually recovered from, the child began to speak and walk at the usual age, and at the present time a retrospective diagnosis would be almost impossible.

This case is chiefly interesting from two points of view. It demonstrated that Little's disease may occur quite apart from obstetrical traumatism, and that while syphilis probably plays a preponderating *rôle* in the etiology of this disease, some other infection, such as mumps, may be the actual causative factor.—Matthew J. Stewart.

Perforation of the Intestine during Paracentesis Abdominis. By M. M. Roger and Jourdan (*Gazette des Hôpitaux*, 2nd April, 1912).—The authors, before recording their own case, review very shortly some of the more serious complications of abdominal paracentesis. Too rapid decompression of the abdominal viscera may lead to intestinal hæmorrhage, or in some cases even to fatal syncope, either by the determination of an excessive amount of blood to the splanchnic area, or by the sudden lowering of the diaphragm. Peritoneal infection from without - a rare event even in preantiseptic days - is now almost unknown. Puncture of a large vein in the abdominal wall may lead to intraperitoneal hæmorrhage, which in some cases has proved fatal; less frequently there is hæmorrhage from the external aperture. In certain patients with hepatic insufficiency, and especially in cases of cirrhosis, paracentesis may be followed by jaundice, or there may be aggravation of an existing icterus. Repeated tappings not infrequently lead to the condition known as chronic serous anæmia, in which there are marked emaciation, pinching of the features, tightly drawn lips, and a dry skin. This result is brought about by the excessive abstraction of fluid and of albumoses from the system.

The case recorded by the authors is one of perforation of the bowel during paracentesis abdominis, a unique occurrence so far as they have been able to ascertain from a study of the literature. The patient, a woman of 29 years, was admitted to hospital in January of last year complaining of swelling of the abdomen of about eight months' duration, and she suffered also with slight dyspeptic symptoms and with hæmorrhoids. Her previous health had been good, and there were no alcoholic antecedents. All the signs and symptoms of a large ascites were present, and the diagnosis lay between cirrhosis of the liver, tuberculous peritonitis, and malignant ovarian tumour. Laparotomy by median incision was performed a week after admission, and the ascites was then found to be dependent on an atrophic cirrhosis of the liver. It was therefore decided to do an epiplopexy. At the time of operation 15 or 16 litres of fluid were evacuated, but recurrence of the ascites commenced almost immediately. On 3rd February 7 litres of fluid were removed by tapping, and on 25th February paracentesis was again performed. On this occasion the right flank was selected, as some induration and œdema from the former puncture still remained on the left side. The trocar and cannula of a Potain's apparatus were used, and though the insertion was performed without effort, some slight aspiration as well as movement of the cannula was necessary to institute the flow. Some bubbles of gas which were mixed with the first drops of fluid were supposed to have gained entrance through a faulty joint in the apparatus. In all, about 5 or 6 litres of fluid were withdrawn. No immediate ill effects were observed to follow the tapping, but four hours later the patient complained of pain in the left flank, and she passed a copious dark-coloured motion, followed soon after by two normally-coloured motions. Later in the evening she complained of a feeling of faintness, with some dyspnœa, and acceleration of the pulse, and death took place at 6 A.M. without further developments.

At the autopsy it was found that a loop of small intestine was adherent to the abdominal wall in the right flank, and when this was detached, a perforation was found in the wall of the gut exactly opposite the site of the latest paracentesis. The mucosa on the other side of the bowel was eroded, and the perforation itself was closed by blood-clot. Two or 3 litres of fluid still remained within the peritoneal sac. It was yellowish and slightly muddy, but without odour. The liver showed the typical naked eye and microscopical characters of multilobular cirrhosis.

In this case the authors attribute the death of the patient to a variety of circumstances. In addition to the slight intestinal hæmorrhage, and slight peritonitis resulting from the perforation, there must be considered the low state of the patient's general health resulting from the advanced liver disease, and contributed to by the recent operative procedures. It is pointed out that Talma's operation in this case was not only unproductive of any good result, but that in all probability it was the direct cause of the adhesion which led to the fatal issue.—MATTHEW J. STEWART.

SURGERY.

Multiple Tumours of the Large Intestine. By G. H. Makins, C.B., F.R.C.S., Cuthbert Wallace, F.R.C.S., and Percy Sargent, F.R.C.S. (*Proceedings of the Royal Society of Medicine*, Surgical Section, April, 1912).—Their cases fall into four classes—

I. Ring carcinomata with a length of normal bowel between them.

II. Ring carcinomata having the mucous membrane of an otherwise normal bowel between them covered with simple polypi.

III. A ring carcinoma having the mucous membrane distal to it covered with (1) simple polypi ; (2) simple and malignant polyi ; (3) malignant polypi.

IV. A ring carcinoma having a single simple polypoid adenoma just proximal to it.

The authors discuss the relationship of these growths and the method of dissemination, if one is secondary to another.

In Class I proof is lacking that the infection did not travel by lymphatic infection, permeation or peritoneal dissemination, but for the fact that at the various operations no signs of dissemination were present. The alternative hypothesis is that either the growths were primary or the lower were implantation or infection tumours.

In Classes II and III the cancerous change may have taken place in pre-existing polypi, or the upper carcinoma may have caused the polypoid condition below it.

In Class IV probably one of two polypi had become malignant.

They lay stress on two clinical points. In the first place how painless, chronic, and slow to disseminate is carcinoma of the colon, and yet how persistent it may be in its local appearance. This knowledge should influence the surgeon when he has to decide between the palliative and the radical operation. Secondly, the surgeon must be prepared to find more than one growth. Roy F. Young.

Cholecystostomy *versus* **Cholecystectomy.** By Louis Frank, M.D. (*American Journal of Surgery*, May, 1912). The author is convinced that the most rational treatment of gall bladder infection, with or without the presence of complicating calculi, is early incision and drainage, and that cholecystectomy should be resorted to only under the following circumstances :—

1. Severe trauma of the gall-bladder.
2. Extensive gangrene of the gall-bladder or its duct.
3. In chronic cholecystitis where the gall-bladder is markedly thickened, or so adherent to surrounding structures as to render it functionless.
4. For the elimination of a persistent mucous fistula, *i.e.*, one of six to eight months' duration, following previous operation.
5. Primary carcinoma.—Roy F. Young.

GYNÆCOLOGY AND OBSTETRICS.

Sarcoma of the Uterus and Mixed Tumours. Augier, Lille (*La Gynecol.*, April, 1912), discusses the origin of mixed tumours, especially of the uterus, and describes and illustrates the appearances of a sarcoma of the cervix. This case has been already recorded by his pupil, Perdrige, in a graduation thesis (Paris, 1911). The tumour was partly tubular epithelioma, partly sarcoma containing cartilage.

Uterine tumours sometimes contain various forms of connective tissue, such as fibrous, myxomatous, sarcomatous, and adipose. More rarely they contain tissue absolutely foreign to the uterus, such as striped muscle and cartilage; similarly, sarcoma and epithelioma are found together.

Some writers maintain that the cells of the sarcoma have a certain *metaplastic* power by which they give rise to connective fibres; to mucous, fatty, and cartilage cells; to smooth, and even to striped muscle. This, however, is not accepted by Augier, who inclines to the belief that these tumours arise from a special tissue of embryonic origin, which has remained undifferentiated till its active growth has given rise to the tumour formation. In the uterine tumours, in particular, these embryonic fragments come from the provertebræ or myotomes, which in the course of development are able to produce cartilage, striped muscle, or connective tissue. Now the Wolffian canals, which sometimes persist in the lateral walls of the uterus and vagina, may, in their progressive development towards the cloaca, draw down with them some cells from the provertebral system with which they are so closely related in embryonic life. If these embryonic elements progress towards the formation of a neoplasm, they give rise to the same sorts of tissue as in the embryonic state—that is, bone, cartilage, muscle, and connective tissues. This, in the present state of our knowledge, he accepts as a working hypothesis.

Augier dwells at some length on the diagnosis of uterine sarcoma. Examination of curettings is liable to mislead, so great care must be exercised to make a thorough survey of the section with low powers of the microscope before proceeding to study it with the high powers. An inflamed endometrium is infiltrated in its various layers by small cells; in fungous endometritis the superficial layers are infiltrated with small cells, while the deep layers show fusiform and other cells, with considerable proliferation of the glandular elements. The small and fusiform cells examined by themselves directly with the high powers might lead to erroneous diagnosis. In sarcoma growing at the expense of the mucosa the glands tend to disappear, as also the superficial epithelium, and the tissue is infiltrated with round and fusiform cells, which stain poorly. The infiltrating, poorly-staining cells are found in clumps in areolar tissue, which is well or poorly stained according as it is healthy or necrosing. The presence or absence of glands is an important element in the diagnosis.—E. H. L. OLIPHANT.

Puerperal Mortality.—Ahlfeld, Marburg (*Volkmann's Samml.*, No. 651, 1912)—discusses the effect of the introduction of antiseptics and asepsis on the mortality of childbirth. He goes over the statistics so far as they are available in various German States, as well as in Holland and Switzerland, and shows the influence of Semmelweiss and Lister, yet the mortality remains much too high. Much of the mortality is due to a meddlesome third stage, while much blame lies on those who teach that the hand cannot be disinfected, or who change their teaching as to the methods to be employed. The midwife is only too prompt to take any excuse to throw her teaching to the winds as soon as ever she has her certificate, and to practice in the good old way her grandmother followed. His figures are of great interest, and Ahlfeld takes the opportunity of again recommending acetone alcohol for the hands.

—E. H. L. O.

The Parathyroids and Maternity.—Morel describes at some length (*La Gynecologie*, April, 1912) the work recently done on the parathyroids, and the production of tetany. A large number of experiments on rats, cats, dogs, goats, and other animals shows that most of these animals seem to thrive fairly well when so much as three-fourths of the parathyroid tissue are removed. They are, however, apt to succumb quickly to fatigue or any intercurrent disease. The genital function is not seriously interfered with in male or female so far as impregnation and conception are concerned, but in the female pregnancy, labour, and lactation are all liable to bring on tetany or some convulsive attack. The names of many experimenters are given, but there is no bibliography.

In women the association of lactation and tetany has long been known. Delpech described it ten years before Trousseau's more famous "clinique" (1856). Morel maintains that the clinical evidence supports the hypothesis that tetany and various convulsive troubles, including eclampsia, are due to thyro-parathyroid insufficiency, and that, taken along with the experimental evidence, it warrants us in believing it is the parathyroid insufficiency that is to blame. He further believes that tetany may be brought on by the catamenia in a patient with insufficiency. In convulsive disorders associated with maternity opotherapy is at least worthy of trial.—E. H. L. O.

DISEASES OF THE EYE.

Regarding Ocular Troubles Attributed to the Use of Arsenobenzol ("606"). By Ch. Coutela (*Archives d' Ophtalmologie*, vol. xxxii, January, 1912).—Coutela reviews briefly the literature concerning those cases in which after treatment by "606" some symptom—iritis, optic neuritis, or paralysis of external or internal muscles—occurs.

It is true that practically all the recorded cases are instances in which the new symptom is one commonly found in syphilis, and the point to be investigated is— Does this new symptom come at or about its ordinary time in the clinical course of syphilis?

The general finding is that it does, as a rule, and only rarely is there a great difference. In some cases the new development follows the injection of "606" at an interval so short—say one, two, three, or six days—that one must be on guard and notice very carefully that it is the date since the primary sore was noticed which is of importance, not merely the date of the injection.

Coutela is evidently strongly of opinion that the vast majority of such "accidents" are really symptoms of the original disease, and that arsenobenzol is not very liable to act as a toxin in any of the various ways which are possible.

It is pointed out that, in many such cases of accident, treatment of the new symptom by renewed doses of salvarsan brings about a rapid amelioration.

—LESLIE BUCHANAN.

A New Method of Treating Acute Gonococcal Conjunctivitis. By Dr. W. Goldzicher, Budapest (*Archives d' Ophtalmologie*, vol. xxxii, March, 1912).—The new method of treatment which Goldzicher advocates is the passage of a current of steam over the conjunctiva, and is based upon two considerations—(1) the gonococcus does not pass deeply into the tissues, but takes up its position in the epithelial layers; and (2) the gonococcus cannot live at a temperature considerably above blood heat. A temperature of 44° (presumably Réaumur) kills the organism in ten minutes, whilst a very short exposure to a temperature slightly higher kills it at once.

The author states that he decided to try heat as a treatment of gonococcal conjunctivitis, as no other method seemed to produce constantly good results. He preferred wet as opposed to dry heat as being less liable to produce necrosis.

The application is carried out somewhat as follows:—An electrically heated kettle is furnished with a spout (orifice dimensions unstated), which is fixed on by a bayonet joint, and is bent at an angle of 90°. A second spout is fixed under the first to catch drops of hot water formed by condensation. Goldzicher has found by experiment that the temperature of the steam falls in regular proportion as the distance between the nozzle and the surface to be treated is increased. Thus, at the orifice it is 80°, at 5 mm. it is 66°, at 10 mm. it is 64°, at 15 mm. it is 60°, at 2 cm. it is 56°, at 2·5 cm. it is 54°, and at 3 cm. it is 52°. He employs usually steam at 56° or at 52°. (Unfortunately he does not say how long the applications may or should be continued.) The treatment is unfortunately very painful, especially at first, and cocaine seems to have but little effect in diminishing this unpleasant feature.

The result of the new treatment as tried in fifteen cases has been most satisfactory in Goldzieher's hands. Ten of the cases came with intact corneæ, and all of these were practically cured in a comparatively short period (about a week or so). In the remaining five cases the cornea was involved when the patient was first seen, but in spite of this not only did the discharge cease, but the cornea healed remarkably quickly.

Unfortunately the details of treatment are insufficiently stated.

—Leslie Buchanan.

Regarding the Transparent Regeneration of Corneal Tissue. By G. Bonnefon and André Lacoste, Bordeaux (*Archives d'Ophtalmologie*, vol. xxxii, February and April, 1912).—Bonnefon and Lacoste have been experimenting upon rabbits with the object of finding how far it is possible to obtain repair in cases of loss of corneal substance with complete or almost complete transparency of the resultant cicatrix.

Portions of the central area of the cornea, measuring some 6 by 4 millimeters, were excised to a depth of about half the corneal thickness, and the process of repair at various stages was then studied histologically. Intervals of five, twelve, twenty-four, thirty-six, &c., hours and longer up to six months were allowed to elapse after the operation before the animal was killed.

It is shown, by both description and carefully drawn illustrations, that the process of repair is a long and slow one, and that under certain conditions the cicatrix which results is practically transparent; indeed, the writers assure us that even when examined most carefully by focal illumination the cornea shows no sign of opacity after the longest interval (six months). The paper then goes on to deal with the subject of keratoplasty, and it is shown fairly conclusively that even in the most successful of cases the process is not one of substitution of corneal tissue, but of regeneration. In some cases the cicatrix is protected as it were by the shrivelling flap of transplanted tissue, and under it the ordinary healing process is successfully carried out. More frequently, it is probable, the new flap is lost and regeneration takes place as in an ordinary excision.

It is of the utmost importance that the operation be conducted under rigid aseptic conditions, and that the entire thickness of the cornea be not involved.

Whether or not the conclusions drawn are equally applicable to the human subject and the rabbit remains to be seen, as the authors have not carried out any investigations on the human subject so far.

The subject is one of the utmost importance, and the writers are to be congratulated upon their most interesting work.—Leslie Buchanan.

Books, Pamphlets, &c., Received.

Foods: Their Origin, Composition, and Manufacture, by William Tibbles, LL.D., M.D. (Hon. Causâ) Chicago, L.R.C.P.Edin., M.R.C.S.Eng., L.S.A.Lond. London: Baillière, Tindall & Cox. 1912. (18s. net.)

Systematic Case-Taking, a Practical Guide to the Examination and Recording of Medical Cases, by Henry Lawrence M'Kisack, M.D., M.R.C.P.Lond. London: Baillière, Tindall & Cox. 1912. (5s. 6d. net).

Auto-Intoxication and Disintoxication, an Account of a New Fasting Treatment in Diabetes and other Chronic Diseases, by Dr. G. Guelpa, Paris. Translated by F. S. Arnold, B.A., M.B., B.Ch.Oxon. London: Rebman, Limited. 1912. (5s. net.)

New and Non-Official Remedies, 1912, containing Descriptions of the Articles which have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association prior to 1st January, 1912. Chicago: American Medical Association. 1912.

The Etiology, Diagnosis, and Prophylaxis of Pulmonary Phthisis, by Alfred Harris, M.B., Ch.B.Victoria, D.P.H.Camb. Bristol: John Wright & Sons, Limited. 1912. (2s. 6d. net.)

An Operating Theatre in Private Practice, by C. Hamilton Whiteford, M.R.C.S., L.R.C.P. London: Harrison & Sons. 1912. (3s. 6d. net.)

First Aid, by Sir John Collie, Kt., M.D., C.M.Aberd., J.P., and C. F. Wightman, F.R.C.S.Eng. Sixth edition. London: George Gill & Sons, Limited. (9d. net.)

Clinical Methods: A Guide to the Practical Study of Medicine, by Robert Hutchison, M.D., F.R.C.P., and Harry Rainy, M.D., F.R.C.P.Ed., F.R.S.E. With 13 coloured plates and 146 figures in the text. Fifth edition. London: Cassell & Co., Limited. 1912. (10s. 6d.)

The Treatment of Shortsight, by Professor Dr. J. Hirschberg, Geh. Med. Rat. in Berlin. Translated by G. Lindsay Johnson, M.D., F.R.C.S. With 12 illustrations. London: Rebman, Limited. 1912. (5s. net.)

Manual of Surgery, by Alexis Thomson, F.R.C.S.Ed., and Alex. Miles, F.R.C.S.Ed. Vol. II: Regional Surgery. Fourth edition, revised and enlarged, with 274 illustrations. London: Henry Frowde and Hodder & Stoughton. 1912. (10s. 6d. net.)

Anæsthetics: A Practical Handbook, by J. Blumfeld, M.D.Cantab. Third edition. London: Baillière, Tindall & Cox. 1912. (3s. 6d. net.)

The Essentials of Morbid Histology: For the use of Students, by Albert S. Grünbaum, M.A., M.D., F.R.C.P., D.P.H. With 22 coloured plates and 139 illustrations. London: Longmans, Green & Co. 1912. (7s. 6d. net.)

Immunity: Methods of Diagnosis and Therapy and their Practical Application, by Dr. Julius Citron. Translated from the German and edited by A. L. Garbat, M.D. 27 illustrations. Philadelphia: P. Blakiston's Son & Co. 1912. ($3·00 net.)

Achondroplasia, its Nature and its Cause, by Dr. Murk Jansen. London: Baillière, Tindall & Cox. (6s. net.)

Surgical Operations: A Handbook for Students and Practitioners, by Professor Friederich Pelo Lensden. Only authorised English translation, by Faselou E. Gardner, M.D. New York. With 668 illustrations. London: Rebman, Limited. 1912. (30s. net.)

Cerebral Decompression in Ordinary Practice, an address by Charles A. Ballance, M.V.O., M.S., F.R.S.C.Lond. London: Macmillan & Co. 1912. (2s. 6d. net.)

Preventable Cancer: A Statistical Research, by Rollo Russell. London: Longmans, Green & Co. 1912. (4s. 6d. net.)

GLASGOW.—METEOROLOGICAL AND VITAL STATISTICS FOR THE FIVE WEEKS ENDED 22ND JUNE, 1912.

	Week ending				
	May 25.	June 1.	June 8.	June 15.	June 22.
Mean temperature, . .	48·9°	52·5°	53·3°	55·3°	55·5°
Mean range of temperature between highest and lowest,	17·7°	17·8°	9·7°	12·5°	13·6°
Number of days on which rain fell, ...	1	3	5	7	6
Amount of rainfall, . ins.	0·07	0·48	0·73	1·14	1·25
Deaths registered, . . .	257	253	273	226	214
Death-rates, ...	17·1	16·9	18·1	15·0	14·2
Zymotic death-rates, . .	0·9	1·7	1·3	0·5	0·3
Pulmonary death-rates, .	5·1	3·1	4·5	4·4	4·1
DEATHS—					
Under 1 year, ...	40	38	48	32	46
60 years and upwards, .	70	67	71	54	50
DEATHS FROM—					
Small-pox, ...	...	...	...	...	...
Measles, ...	5	6	8	2	3
Scarlet fever, ...	1	3	1	...	...
Diphtheria, ...	3	7	3	2	...
Whooping-cough, . . .	5	5	2	4	2
Enteric fever, ...	2	2	2	...	...
Cerebro-spinal fever, . .	...	1	2	...	...
Diarrhœa (under 2 years of age),	3	1	7	6	8
Bronchitis, pneumonia, and pleurisy, ...	44	40	49	46	38
CASES REPORTED—					
Small-pox, ...	..	...	...	...	...
Cerebro-spinal meningitis, .	..	2	1	...	1
Diphtheria and membranous croup, ...	37	31	37	22	26
Erysipelas, ...	17	18	14	15	19
Scarlet fever, ...	52	58	34	31	47
Typhus fever, ...	...	...	5	8	9
Enteric fever, ...	2	11	2	4	4
Phthisis, ...	51	51	37	28	31
Puerperal fever, . . .	2	1	3	4	1
Measles,*	105	124	88	91	77

* Measles not notifiable.

SANITARY CHAMBERS,
GLASGOW, 26*th June* 1912.

THE

GLASGOW MEDICAL JOURNAL.

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ORIGINAL ARTICLES.

CHRONIC OVARIAN PAIN AS ILLUSTRATED IN THE RECORD OF A CASE FINALLY TREATED BY DOUBLE OÖPHORECTOMY.[1]

By A. W. RUSSELL, M.A., M.B.

When this communication was postponed from the last meeting of the Society it was suggested that it might be made the basis of a short discussion on the operation of oöphorectomy for the relief of pain and its after-results.

Abdomino-pelvic pain in women provides both the physician and the surgeon with some of the most complicated and puzzling problems in medicine, and its various aspects and relations might profitably monopolise our attention for the whole evening. In this short paper I am limited to the class of cases that are perhaps the most difficult to understand, while they are usually the most unsatisfactory to treat—the cases of chronic so-called ovarian pain without obvious lesion discoverable by ordinary methods of examination.

Chronic ovarian pain may be defined as the persistent pain

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[1] Read at a meeting of the Glasgow Obstetrical and Gynaecological Society held on 22nd May, 1912.

felt in its greatest intensity at or near a point on the abdominal wall about two inches or three fingerbreadths horizontally inwards from the anterior-superior spine, limited to an area corresponding to the tenth dorsal segment, and not associated with any recognisable lesion or abnormality of any of the abdominal organs. This pain must be accepted clinically as a distinct entity in spite of the criticisms of the gynæcologist who drove long needles through that part in the cadaver and frequently missed the ovary, or of the neurologist who said that he found the same localised tenderness in a hysterical male.

Pain limited to this ovarian region may be associated with disease of any of the other abdominal organs—bowel, liver and gall-bladder, kidney and ureter, or another part of the generative tract itself, and operations have sometimes been begun for its relief only to discover this fact, but such a mistake becomes less and less likely as knowledge advances and experience increases. Our real difficulties begin when we have to discriminate between simple chronic ovarian pain and pain felt in neurasthenia or in hysteria. With careful and repeated observation and examination, helped if necessary by an anæsthetic, the diagnosis will usually be possible. Gross lesions in the pelvis, or in other abdominal organs, will be ascertained by pelvic examination and by other clinical methods; the presence of peritonitis will be marked by its wider and more irregular distribution, and will not be limited to the tenth dorsal segment; neurasthenia, a frequent sequel to chronic ovarian pain, has its own characteristic symptoms, and may need treatment after removal of the source of the pain; hysteria, as known to the modern physician, has its own definite physical signs upon which the diagnosis rests—its paræsthesia and hyperæsthesia and other nerve disturbances, and the absence of limit of the pain to a definite segment of the nervous system, though it adds its own difficulty to the treatment by the concentration of the mind on the local ovarian pain when present as a complication.

When we have excluded all these elements we have still a proportion of cases, and these often the most persistent and aggravated in their character, which are associated with nothing else but a condition of the ovaries not readily recognisable by the ordinary methods of examination, and seldom relieved by anything short of operative treatment. To this class belongs the case that is the reason for my present communication.

Mrs. N. consulted me about the end of 1908, nearly three and a half years ago. She was then 37 years of age, her husband was living, and she had a healthy boy 10 years old. Menstruation began early, and before her marriage had always been painful: but she had relief in this respect after marriage, and after the birth of her child she was in good health. Subsequently she had two miscarriages about the third month, and was curetted some time after the first but not at the time of the second nor after it. Her abdominal pain and deterioration of health are assigned to these incidents. Tamponade, frequent douching, pessaries, applications of iodine, restful holidays in the country, &c., were tried, with no apparent benefit, but rather with progressive increase of the pain. Her condition had become so serious that five months before I was asked to see her there was a consultation, and as a result she was put upon a strict regimen of treatment, including four daily douches, each of four pints of hot water, special stress being laid upon their regularity and the quantity of fluid used. I mention these details to show that if ever such a case could be cured by medical means most carefully prescribed and as faithfully carried out, this ought to have been.

At the time that I saw her first she was in a miserable state of physical and mental health, and would not admit the slightest benefit from the elaborate and prolonged ritual of treatment which she had religiously followed for the previous five or six months. She complained of constant wearing pain, specially marked on the right side, unfitting her for her domestic duties, and making life itself a burden. The uterus was found to be slightly enlarged, and there was acute tenderness over the ovarian regions, this being specially marked at a rounded projection on the right ovary corresponding to a distended follicle with thickened wall seen in the specimen. The persistence, and even the gradual aggravation, of her symptoms, left me little hope that I could help her by any variation of the means of medical treatment. An examination under an anæsthetic gave no fresh light on the case, so I obtained permission for a radical operation if this was found to be necessary.

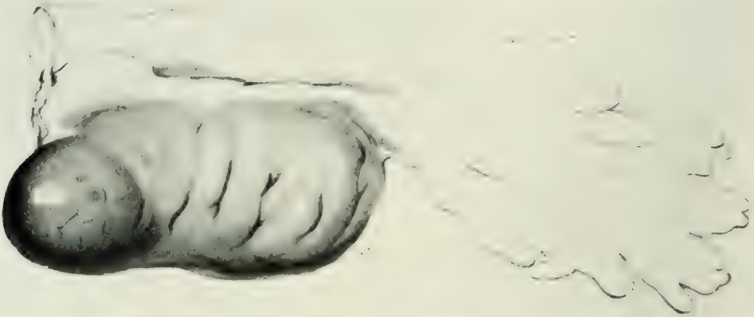
The operation needs no description. Both ovaries and tubes were removed, primary convalescence from the operation was uncomplicated, and the patient was back in her own home within four weeks. But this is not the whole story. Complete recovery of health is naturally a slow process in such cases, and this patient, by one or two sharp experiences after over-exertion or prolonged fatigue in domestic work, discovered that a modern operation was not the exact equivalent of an ancient miracle. Though I had given a guarded prognosis, I was myself for a time anxious as to the final result. Three months after the operation she was still easily tired, and there was occasional pain in the left side. Eight months after the operation, however, nutrition had markedly improved. Her face had a younger look, and no pain could be elicited either on palpation over the ovarian regions, previously so tender as to hardly bear touching, or by vaginal examination.

Some one has said that "no conclusions as to the value of operative treatment in curing the so-called ovarian pain can safely be drawn except from cases watched for a long time subsequent to operation." I have waited three years to report this case, and have in the interval had the satisfaction of seeing my patient (who seemed doomed to invalidity, if not something worse) regain her health and resume her normal habits of life, to her own intense gratification and the delight of her friends.

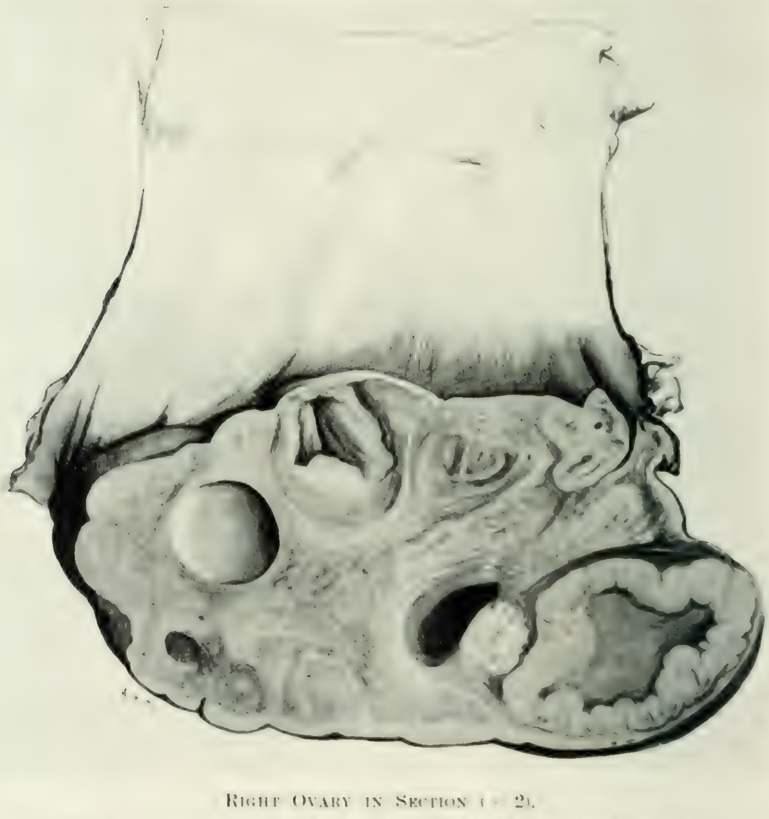
I may appear to some to be making too much of a single case, but it is not the only one in my experience, and sometimes the exposition of one case in all its details may be quite as educative and as effective an argument as a big series of cases not entirely alike in their characteristics. I am reminded of two other cases, one of them, I think, the first double oöphorectomy that I did for chronic ovarian pain, the other my most recent case of this, in whom, however, I left a very small part of one ovary.

The first, a single woman of 30-35 years, made a good recovery, but owing to an accident at the operation developed about three weeks later a double phlegmasia, and for months after had persistent distressing pain high in the abdomen, necessitating a second abdominal section. In spite of all her subsequent suffering she gave the repeated assurance that she had entirely lost the original ovarian pain.

The last was a young married woman of 28 years, who had had one child five years ago. Her ovaries show the same characters as the other specimens. Her pain dates back to her confinement, and has latterly been constant, with acute prostrating exacerbations. From the day of the operation, five weeks ago, this patient has declared that she has been completely relieved of her pain. And this relief is explained by some to be due to "suggestion!"



RIGHT OVARY FROM BEHIND (NATURAL SIZE).
Showing distended follicle and corrugation.



RIGHT OVARY IN SECTION (× 2).
Showing sclerosis, unruptured cysts, and thickened cortex and cyst wall.

To illustrate Dr. A. W. Russell's paper.

The pathological bearings of the case have their own interest, and form part of the reason for my report. Ovaries at different ages, and in different persons at the same age, vary in appearance and structure so greatly that it is difficult to establish either a healthy or a pathological standard for comparison of specimens. The ovaries of my patient and the drawings of Mr. Maxwell, as well as the microscopic sections, seem to me to show undue corrugation of their surfaces, abnormal thickening both of the cortex and of the walls of unruptured follicles—a condition of cystic sclerosis. I am convinced that for so advanced a pathological change the only likely operation is oöphorectomy, and I could not hesitate to operate on both sides if the lesion is bilateral and advanced.

It is difficult to understand how such a diseased process can be delayed or arrested in its progress, the original cause being as yet undiscovered. Just as the condition of fibrosis of the uterus is attributed to a toxic influence, we may have a similar agency at work here. In the earlier stages much may be done by improving and maintaining the general health, and so avoiding or delaying the distressing complication of hysteria or neurasthenia. When intelligent palliative treatment has been well tried, and has failed, there should then be no delay in operating.

A small abdominal incision allows the operator to inspect the pelvis, and he has then the choice of several operations. He may excise the more diseased portion or portions, leaving room for the development of other follicles in the healthy parts; or he may adopt the alternative of decapsulation, or, more correctly speaking, decortication of the ovary, which has been recommended and tried. Such operations are specially desirable in the first resort in the younger patients. In advanced degeneration of the structures nothing short of complete oöphorectomy is likely to relieve the sufferer.

"TUNNEL" SKIN-GRAFTING: A NEW METHOD OF COVERING RAW SURFACES WITH EPITHELIUM.

By ALEX. MacLENNAN, M.B., C.M.,

Assistant Surgeon, Western Infirmary (in charge of the Burn and Observation Wards); Extra Honorary Surgeon, Royal Hospital for Sick Children; **Honorary Consulting Surgeon, Stirling Royal Infirmary; Consulting Surgeon, Eastern Railways in Glasgow.**

The slowness in healing of burns and the well-known difficulty to get grafts to "take" in many cases are my apology for writing on this somewhat unromantic and distressing subject. It may well be that in the hands of some the already practised methods of skin-grafting have given satisfactory results, but the method about to be described has yielded me much greater success than any of the others employed. In many cases the surfaces seem never to be ready for grafting, and so the matter is delayed till by the lapse of time and the applications of very frequent dressings the surface to be covered gets more or less clean. It is especially in those unfavourable cases that I think my method is so applicable. The usual measures to get as ideal a surface as possible are not neglected, but too much time should not be allowed to elapse before an attempt be made to get an epithelial covering over the raw surface. Indeed, so soon as it becomes apparent, for instance, in a recent burn, where grafts will be wanted, so soon may the plan be carried out. The usual methods have given me such very unsatisfactory results that I have been induced to seek for some plan whereby the essentially frequent re-application of the dressing could be carried out without, at the same time, dragging off the lightly-rooted skin grafts. If the profusely leeting surface be not frequently dressed, ulceration takes place at the healing edge, and the grafts are floated off or killed by the toxic fluid which surrounds them. If the dressing be removed shortly after the grafts are placed in position they stand every chance of being disturbed, and I have not yet found a protective tissue, either perforated or angularly slotted, to be of much use in efficiently retaining the grafts in position, and at the same time not interfering with the free absorption of the discharge. It cannot be expected that grafts will live in pus.

It is, therefore, essential that the requisite frequency of the dressings be not interfered with, and the method now to be described, besides fulfilling this condition, also permits the grafting process to proceed irrespective of the condition of the surface.

The steps of the operation are as follows:—

1. The day previous the skin to be transplanted is washed with soap and nailbrush, well soaked with methylated spirit, and covered with a dry sterile dressing.

2. Before removing the graft the skin is again rubbed with spirit, and dried with sterile gauze. The graft may be a mere shaving, or be the entire thickness of the skin.

3. The subcutaneous fat, when the whole skin is taken, is not raised with the graft, and may, or may not, require to be susequently excised before the wound is closed with a continuous silkworm suture. The excised skin should be placed in saline, and the wound closed before the hands, &c., become soiled during manipulation about the septic surface.

4. The graft is then cut into little strips a quarter of an inch wide, and about three-fourths of an inch long.

5. The ulcerated surface is then prepared for the graft by tunnelling beneath the granulations with a pair of forceps or other suitable instrument. The tunnel should be just wide enough to lightly compress the graft, and long enough to cover in the ends. If wide strips be employed too much of the granulation layer is raised, and it sloughs too soon, certainly before the graft has taken firm root. The depth of the tunnel will depend on the breadth of the strip and upon the quality of the granulations. The deeper the tunnel the more likely is the graft to become firmly attached before the protecting granulation layer disappears.

6. The points of the forceps protruding through the other end of the channel grasp the skin-strip, and by withdrawing the forceps the graft is drawn into the tunnel, and there left.

7. Bleeding is often profuse, but if the passage be made of the proper size the graft plugs it and inhibits the oozing; if still bleeding a little light pressure will stop it. In some vascular parts it is advisable, if possible, to perform the manœuvre after the region has been rendered anæmic by the Esmarch's bandage. The graft comes to lie in a little cell embedded in blood-clot, and under the surface protected from contact with the dressing. The tension of the superimposed

granulations keeps the graft in contact with its bed to which it is intended it shall adhere (see Fig. 1).

8. If the granulations are old it will be found that a dense fibrous layer carpets the ulcer, and it is desirable to tunnel under this layer. If any difficulty be found in getting under it with the forceps the tunnel should be made with a scalpel. The only disadvantage of making a deep channel is that the bridge over it does not spontaneously disappear, but will require to be cut away on a subsequent occasion, and the sides of the tunnel will prevent the outward spread of the epithelium. To induce the shrinkage of the intervening granulations the applications of blue-stone will be found adequate: in some cases where the granulation bridge over the graft does not melt away the same application of blue-stone will hasten the process without detriment. It is, therefore, a matter of experience at what depth to implant

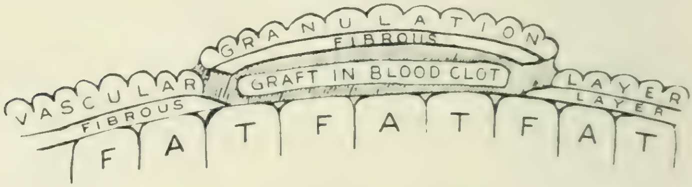


FIG. 1.

To show graft embedded (cross section).

the graft; it is better to err in the direction of tunnelling too deeply than too superficially. In some cases where cicatricial contractures have followed healing this method of whole skin grafting is most satisfactory, and is more certain of success than the usual plan of cutting the contracture across and filling up the gap by a whole skin graft stitched in position. The graft is pulled into a tunnel, made by a knife or other suitable instrument; when firmly fixed the superimposed bridge of scar tissue is divided. The graft may be taken the desired size, but it is better to insert two narrow strips, separated by a short interval, than one wide one. This adaptation of the principle of tunnel-grafting is certainly not new, for it has been carried out during the treatment of web-fingers by the operation known as Fowler's.

9. After such a plan of grafting the dressings take place irrespective of the grafts, and in this way the ulcerated surface may be kept clean, and septic absorption minimised.

10. At the first dressing on the second day it may be found that the bridge of granulation tissue has already sloughed. If such be the case the superficially placed and lightly-rooted graft should be prevented getting attached to the new dressing by having a small strip of protective silk or guttapercha tissue, only slightly larger than the graft, interposed between it and the dressing. It may be found that in some cases, besides the disappearance of the granulation bridge, the grafts themselves have necrosed. In such the strips should be made narrower, and embedded more deeply at the next attempt.

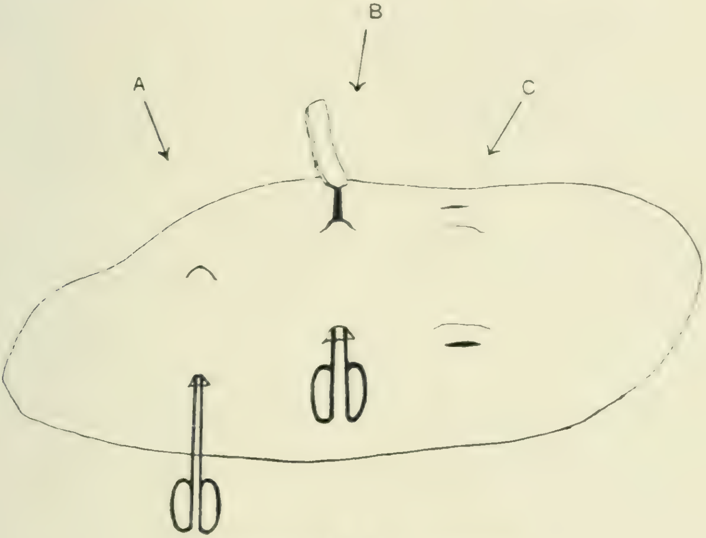


Fig. 2.

A—Forceps tunnelling under granulations.
B—Forceps grasping graft.
C—Graft embedded.

11. As a suitable dressing I have found a paste of boric acid and glycerine spread on sterile lint satisfactory, especially to the patient. Where a large surface is so covered the urine must be watched for hæmoglobinuria, due to glycerine absorption, and on its appearance the dressing discarded for another.

12. After some days the intervening granulations may swell and tend to drown the grafts, thus preventing growth from the edges. Such protuberant granulations are to be treated

by the application of a copper sulphate crystal, already referred to as the method for bevelling down the surrounding parts to the level of the deeply-placed graft.

13. The raw surface may be thus divided up by skin-strips, and healing takes place under those circumstances very rapidly. Fig. 2 (p. 89) shows the steps of the procedure.

SUCCESSFUL REMOVAL OF LARGE RETRO-PERITONEAL SARCOMA, WITH NOTES ON THE METHOD AND TREATMENT.[1]

BY DONALD DUFF, F.R.C.S. EDIN., F.R.F.P.S. GLASG.,

Assistant to Senior Surgeon, Royal Infirmary; Surgeon and Gynæcologist, Glasgow Central Dispensary: Assistant Gynæcologist, Maternity and Women's Hospital; Professor of Physiology, St. Mungo's College, &c.

RETRO-PERITONEAL tumours are sufficiently rare in their incidence to warrant the publication of any case that may be met with. The case I have to report, besides being of interest on account of its infrequent occurrence, presented other points in themselves worthy of record—(1) The tumour occurred in a patient who three years previously had the left mamma removed for malignant disease; (2) extensive damage to the coats of part of the transverse colon was inevitable on account of the intimate relationship between that part of the gut and the growth; and (3) the injured bowel was successfully repaired by means of an omental graft—a method of treatment which is not practised as much as it might be by abdominal surgeons.

The history of the case is as follows:—

Mrs. S., æt. 44, was admitted to the Glasgow Maternity and Women's Hospital while I was on duty in August, 1911, complaining of a large swelling in the lower part of the abdomen. Her menstrual functions were practically normal, the discharge had never been profuse, no clots had been passed, and only occasionally had there been pain. She had had two confinements, the last five and a half years previously. Both labours were followed by a prolonged puerperium.

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[1] Read at a meeting of the Glasgow Obstetrical and Gynæcological Society held on 24th January, 1912.

during which she said she had been very ill. Her general health had always been good, except after her confinements.

Three years before her admission she had been a patient in the Victoria Infirmary, where the left breast had been removed for a tumour.

Her present illness began early in 1911, when she noticed a mass the size of a hen's egg at the left side of the umbilicus. At this time she had gastric symptoms, pain after food, vomiting, acid eructations, and the bowels were very constipated. Under treatment the gastric condition seemed to improve. The swelling, however, gradually increased in size, and as it did so the difficulty with the bowels became more marked. She did not have any pain till about June, 1911, and at that time some tenderness was also complained of on the left side, especially in the iliac region. There has never been any difficulty with micturition, and symptoms referable to her pelvic organs have not been complained of.

The following is the report of her condition on admission to hospital:—

"Patient is a small woman fairly well nourished, although she complains of loss of flesh and colour lately. The mucous membranes are of good colour. The skin has a yellowish tinge, but she does not look markedly cachectic. There is nothing abnormal to be detected in the heart and lungs.

"The abdomen is very much enlarged, especially in the lower half. There is a large mass filling the false pelvis, and extending upward into the abdominal cavity. On the right side it reaches a level about 1 inch, and on the left, 2 inches above the umbilicus. The general shape is somewhat ovoid, and the surface of the tumour is irregularly hard. The mass can be moved about freely in all directions. Bowel tympany can be elicited at the sides and below the tumour when it is lifted up; there is none in front of the swelling. A peristaltic wave can be seen passing downward along the left side of the tumour. Pressure in the left iliac fossa causes tenderness. Vaginal examination reveals nothing abnormal. The tumour moves independently of the uterus."

Operation (8th August, 1911).—I opened the abdomen in the middle line, the skin being prepared by the iodine method. On opening the peritoneum a large solid, irregularly rounded tumour presented in the wound, having a superficial resemblance in colour to a pregnant uterus. It had, however, no connection with the uterus or adnexa, but appeared to be growing in connection with the transverse mesocolon. On lifting up the mass the small intestines were packed away behind it, and it extended upward to the root of the mesocolon and mesentery. Above and in front adhesions of a very dense nature were found binding the cardiac end of the greater curvature of the stomach to the mass. These adhesions were behind the gastro-colic omentum in the lesser sac of the peritoneum. Covering the whole of the tumour, except on its posterior aspect, was the great omentum densely adherent at the sides, and much thinned out over the anterior surface. At the lower part of the mass the middle third of the transverse colon was very densely adherent. Large blood-vessels, some the diameter of a lead pencil, passed from the omentum towards the swelling, especially on the right side.

The removal of the tumour presented some difficulty on account of its intimate relations with the parts named; but on slightly enlarging the abdominal incision the whole mass was easily delivered through the wound, and the dissection was begun from above. The gastro-colic omentum was separated from the greater curvature in front of the stomach adhesions, and then these were divided between ligatures. The omentum was then systematically ligatured and divided along the sides of tumour. It was then found that the mesocolon had been split in its anterior layer by the growing mass which thus filled the lesser peritoneal sac, and occupied a bed, the floor of which was formed partly by the retroperitoneal tissue of the posterior abdominal wall, and its lower part by the posterior layer of the mesocolon, which was partially adherent to the mesentery beneath. Crossing the floor of this space were numerous enlarged vessels from the colon, and the veins of the mesentery were seen on their way to join the portal vein. A number of these vessels gave large branches to the tumour, and had to be divided. The whole mass was then easily rotated downward, the last part to be dealt with being the attachment of the tumour to the transverse colon. The separation of the bowel at this part was found to be impossible without leaving attached about 7 inches of peritoneal coat, and some fibres of the external muscular layer, extending from the anterior longitudinal band to the mesocolon attachment above. The tumour was now removed, and the rent in the anterior layer of the mesocolon was stitched with catgut. The damaged bowel now presented another problem for solution, and as the patient by this time was exhibiting some signs of shock, I decided not to resect the portion of colon, but to deal with it by means of an omental graft. The part of the great omentum below the transverse colon, with large blood-vessels, was selected and turned up over the denuded surface, and stretched lightly to the junction of colon with its meso-colon, so that adhesion between the omentum and the denuded surface might take place. The abdominal wall was sutured in layers with catgut, and healed by first intention. The operation lasted about fifty minutes. The convalescence was uneventful, and she was dismissed well three weeks after operation.

The tumour which I show you to-night is of large size and distinctly encapsuled, and shows signs of degenerative changes in its interior. Sections cut by the pathologist, Dr. Kennedy, show the structure to be sarcomatous. I have not been able to get information as to the nature of the tumour removed with the breast three years ago. There is at this date no evidence of recurrence in the breast-scar, nor in the lungs; and the question arises is this a metastatic growth, or is it independent of the former neoplasm? If metastatic, one cannot imagine why the liver has escaped, if the spread has been by the usual lymphatic channels.

One characteristic of these retro-peritoneal tumours is the encapsulation. Metastasis occurs when the tumour is primary in about half the cases, neighbouring glands, lungs, and liver being involved.

These tumours are rather rare, and may be primary or secondary. The origin of the primary growths may be in retro-peritoneal glands, fascia, vessel sheaths, or embryonic "rests" in the kidney region. The secondary growths may have their primary focus at any part of the body, but usually in the ovaries or testes. When degeneration occurs they rapidly become cystic.

The diagnosis is difficult. There is usually some gastric disturbance as in this case; and early in the case, when the growth is small, gastric cancer may be suspected. When the growth is low in the abdomen œdema of the legs may be present, and neuralgic pains are complained of. Intestinal stasis may be present, and was also a marked feature of this case. It is quite impossible in many cases to form a definite diagnosis without opening the abdomen. In the present case, in view of her previous history, I expected to deal with a malignant ovary with long pedicle, and it was not until I had opened the abdomen that the true diagnosis was revealed.

The treatment is only operative. Sometimes it is easy to enucleate the early tumours; at other times removal is impossible. Bowel has to be resected frequently, especially when, as sometimes happens, the tumour involves the branch of the mesenteric artery, which supplies the loop of bowel adherent to the tumour. In the case reported to-night, as already stated, a portion of gut, about 7 inches in length, was so densely adherent that its dissociation from the tumour could not be effected without stripping the peritoneal and the superficial layers of the muscular coat from the bowel. The method of treatment afterward adopted, viz., that of fixing over the denuded area an omental graft, seemed to be the only alternative to resection of the whole loop; and, in view of recent work on the use of the omentum for this purpose, I decided to give it a trial. The omentum vessels were very large, and it seemed a very suitable case. I have been frequently impressed by observing the manner in which the omentum attaches itself to inflamed surfaces within the abdomen, particularly in cases of appendicitis, duodenal and pyloric ulcers, and malignant strictures of the intestine. In pelvic conditions one is also familiar with the manner in which blood exudates, and pus, containing tubes, are walled over. Omental grafts not only are of use in covering surfaces denuded of peritoneum, but the omentum may be used to fill in actual rents and large gaps in the bowel. A perforated ulcer may be plugged up, and the plug secured in position by a purse-string stitch, with beneficial results. It is a good plan in cases where pus tubes have been removed, and many adhesions separated in the pelvis, to bring down first the apron-like omentum, when the patient is replaced from the Trendelenburg position, so protecting the small intestines from becoming adherent. The omentum, however, requires careful handling, and any stitching of it should be by very fine gut, and the stitches inserted simply with a view to produce adhesion, *i.e.*, as loosely as possible, and not drawn too tightly, as an epiploitis may result from the traumatism, necessitating a second operation for the evacuation of the area of fat necrosis, which results. I have had to operate for this condition in a case where a large portion of omentum was adherent in a hernial sac, and was removed by the use of mass ligatures. The main point would appear to be the selection of a part of omentum for the graft where the blood-vessels are abundant. In rapidly growing abdominal tumours the omental vessels are always much enlarged, and portions of the omentum are thus peculiarly suitable for measures such as were adopted in this case. One possible disadvantage of using an omental graft would be the formation of bands, which might lead later to strangulation of the gut, but this is largely obviated by carefully spreading out the omentum over the bowels at the end of an operation before closing the peritoneum. I am afraid many surgeons forget that the gastro-colic apron has a protective function to perform towards the small intestine, and this simple arrangement of its lower edge is neglected when the main object of the operation has been accomplished. It is not enough to let bowel, which has been packed away with gauze during an operation, take the care of itself, as one's efforts in packing off may have damaged the omentum, and adhesions may result. These small points of technique are not of major importance, but attention to them may make all the difference between success and failure in a given case.

PRIMARY CARCINOMA ARISING FROM THE BRONCHUS IN A TUBERCULAR LUNG.[1]

By MILNE M'INTYRE, M.B.,

Assistant in the Pathological Institute, Glasgow Royal Infirmary;
Extra-Dispensary Surgeon, Glasgow Royal Infirmary.

CARCINOMA, while the commonest of primary tumours in the bronchi or lungs, is still considered to be so rare as to warrant a record of its occurrence. The present case occurred in close association with chronic tubercle.

The patient, a man, 67 years of age, was admitted to the Glasgow Royal Infirmary, under the care of Dr. Hunter, who has kindly allowed me the use of his clinical records of the case, of which the following is an extract:—

The illness till the time of death covered a period of four and a half months. Shortness of breath, and cough with expectoration, small in amount and occasionally streaked with blood, were the first symptoms. The shortness of breath gradually became worse, and towards the termination of his illness breathing was continuously laboured, and the expectoration purulent and fœtid.

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[1] Read at a meeting of the Medico-Chirurgical Society of Glasgow held on 15th March, 1912.

Examination of the thorax.—The cardiac area was within normal limits. The apex beat was neither visible nor palpable. Cardiac action was irregular and unaccompanied by murmurs. The sounds were obscured by râles. Over the upper half of the left pulmonary area in front there was absolute dulness and marked resistance to percussion, and the respiratory sounds were diminished. The dulness extended to mid-axilla, where at the seventh intercostal space there was an area about the size of a five shilling piece, over which there were signs of cavity. Posteriorly, the percussion note was normal. Over the right pulmonary area the percussion note was hyper-resonant. Expiration was prolonged, and the respiratory sounds were accompanied by small dry râles.

There was neither localised swelling nor visible pulsation, nor remote symptoms signifying intrathoracic pressure. The symptoms pointed to some obstruction of the bronchus going to the upper lobe of the left lung. Though at all times pain was entirely absent, the general condition was suggestive of tumour.

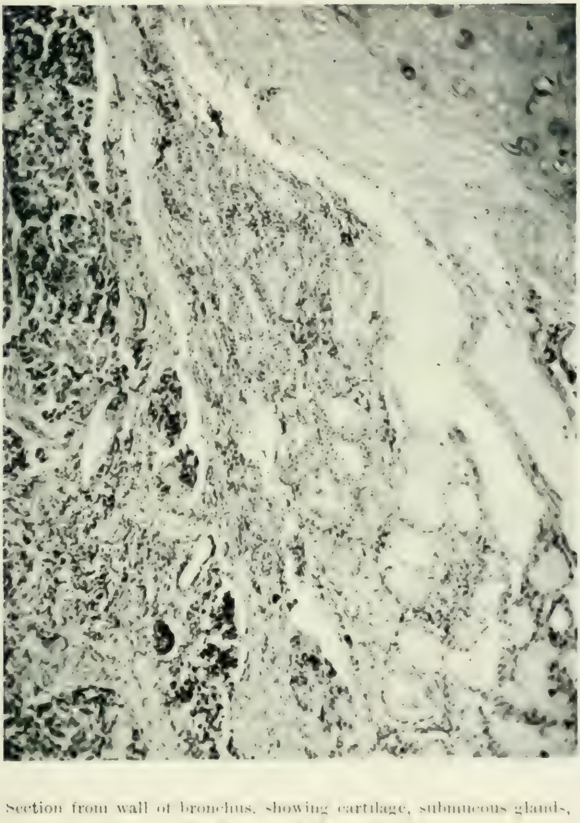
Report of the post-mortem examination (14th February, 1911).—*External*: The body is fairly well nourished, and the chest barrel-shaped.

Internal: The bronchial and tracheal lymphatic glands are enlarged.

There is no tumour of the œsophagus.

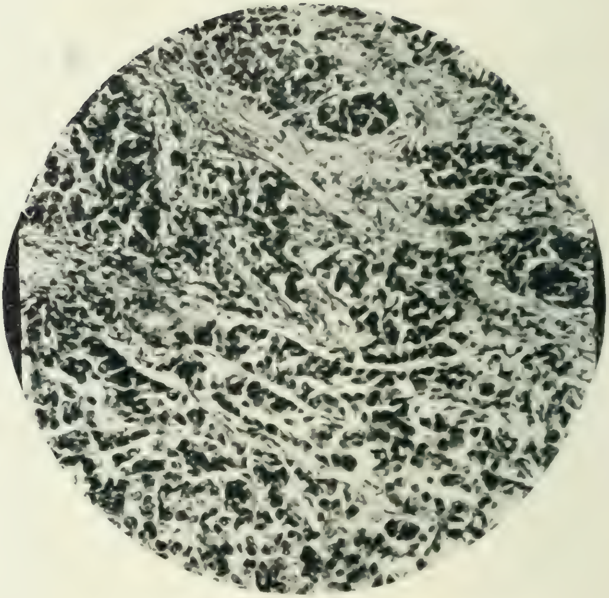
The pleura of the left lung is greatly thickened and nodular. The whole upper lobe is consolidated. The bronchi present the appearance of advanced chronic bronchitis.

On cutting into the upper lobe, a small quantity of dirty grey putrid fluid escaped. This occupied a cavity about the size of a pigeon's egg, the walls of which are formed by ulcerated lung tissues, studded with firm nodules. The cavity is bridged by trabercul æ of firm lung-like tissue. One of these looks like an exposed vessel, irregularly thickened, but on section the cut surface appears solid and yellowish-white. The cavity is in continuity with the upper division of the left bronchus. This bronchus for fully an inch from the cavity is replaced by firm white tumour-like tissue, which



Section from wall of bronchus, showing cartilage, submucous glands, and margin of tumour.

To illustrate Dr. Milne M'Intyre's paper.



Section from middle of tumour showing rows of coherent cubical epithelial cells and acinous grouping of cells.

To illustrate Dr. Milne M'Intyre's paper.

greatly narrows the lumen. There are one or two outlying nodules in the lung, like the tumour in appearance and consistency, and the whole lung is studded with small opalescent areas like tubercles. The pleura of the right lung is slightly thickened in patches. The lung is emphysematous and studded with small opalescent areas, as in the left. Both lungs are markedly anthracotic.

The cut surface of the bronchial lymphatic gland shows white opalescent streaks. That of the tracheal lymph gland appears normal.

The nodular character of the thickened pleuræ suggests permeation of the pleural lymphatics by tumour.

There is no extension to the pericardium.

A careful search was made for a possible primary growth elsewhere, but the bronchi and lungs alone presented pathological change.

Histological examination.—The general structure is that of a carcinoma of very cellular type. The cells are polygonal and round in shape, and mostly of large size. They are arranged in irregular masses, separated by incomplete bands of fibrous tissue, permeated by granular deposits of carbon pigment. The cell outline is irregular. The protoplasm is abundant, and in many of the cells vacuolated. The nucleus is large and chiefly eccentric in position. A few of the cells are multinucleated. Mitotic figures are few in number, and these are not at all well marked. There is little or no intercellular stroma. Areas of necrosis appear scattered throughout.

In a section prepared from the wall of the bronchus, adjacent to but apparently unaffected by tumour, the structure is fragmentary. Among the fragments there are small pieces of tissue, each composed of coherent columnar or cubical cells, and short pieces of duct lined by similar cells. The acini of the submucous glands are irregular in size and shape. Many are atrophied or necrotic, and some cystic. As the tumour structure is approached the departure from normal is more definite, and an appearance of new formation, not unlike adenoma, is assumed. Large and small spaces of irregular shape are formed, lined with a single layer of cubical cells, the large nuclei of which stain so much more darkly that these acini appear prominent.

In the tumour there are pieces of coherent cubical epithelial cells and acinous masses, in some of which the outermost cells form a distinct lining to the space.

The wall of the gangrenous cavity is entirely caseo-necrotic, and shows a few areas of calcareous infiltration.

The thickening of the pleura is simply fibrous, and not of the nature of tumour. In one of the outlying nodules, in addition to tumour cells, there are a few tubercles of chronic type.

The apex of the lung, and the trabecula in the gangrenous cavity, show chronic tubercle, but no tumour.

The tracheal and bronchial lymphatic glands and the right lung are free from tumour, and all except the tracheal gland show chronic tubercle.

Commentary.—Statistics show that primary carcinoma of a bronchus is rare. Though one case is recorded of it occurring in a youth of 17 years of age, it is commonest from the middle period of life onwards (45 to 65 years). It is very rare in old age.

The tumour is seldom large in size. Clinically, the duration of illness is usually short, and the local symptoms often slight or absent.

Cases have occurred with no local symptoms, though metastasis was present, and the primary growth, like others where death resulted from an acute illness, was found accidentally in the course of *post-mortem* examination.

Recently a number of cases of primary carcinoma of the appendix have been recorded, partly the result of routine *post-mortem* examination of all appendices, and partly the result of the examination of appendices removed for symptoms of appendicitis. It is probable that primary carcinoma of the bronchus, likewise, is less rare than it is believed to be.

With anthracosis and chronic tubercle so abundant in both lungs, it is surprising that the patient in this case lived so long, while so much useless lung must have been the cause of a large part of his respiratory difficulty.

In gastric carcinoma the symptoms are usually obvious, and the premises corroborated by surgical procedure. In the case of the lungs or bronchi, on the other hand, symptoms, when present, are usually indefinite, and diagnosis difficult. Even when suspected, on account of the anatomical situation, treatment is usually palliative. One case is recorded where diagnosis was confirmed by finding cancer cells in the sputum.

Kaufmann, in his *Special Pathological Anatomy*, states that it is not uncommon to find tubercle in a cancerous lung. Cavities — phthisical, gangrenous, and bronchiectatic — are common enough *post-mortem* findings. Familiarity with these ends the investigation, and small tumours are thus liable to be overlooked. It is highly probable that the cavity in this case was primarily tubercular.

Hanford[1] records three cases of primary carcinoma, involving lung, pleura, and lymphatic glands (verified *post-mortem*), occurring in his practice within twelve months.

In relation to the seat of origin, the limitation of this tumour is important. A search into the literature of primary carcinoma of bronchus or lung has so far failed to find a record of the condition without metastases outside the affected lung. In one instance metastasis was restricted to the bronchial lymphatic glands. In most cases more widespread secondary tumours caused doubt as to where the primary growth really was.

In the present case there is a carcinoma, limited in extent to a small portion of the bronchus going to the lower half of the upper lobe of the left lung and a small area of lung in the immediate neighbourhood, with no metastasis other than a few outlying nodules within the lower half of the same lobe.

The rows of coherent cubical cells, and the acinous grouping of cells, point to the submucous glands and lining epithelium of the bronchus as being the likely seat of origin.

Summary.—A primary carcinoma, arising in the upper division of a left bronchus, limited to a small area of adjacent lung, and with no secondaries outside the lobe of lung affected.

Histologically, the cells of the greater part of the tumour are arranged in large masses, but in places acinous grouping and rows of cubical cells are seen, which point to a likely origin of the growth from the lining epithelium and submucous glands of the bronchus.

The condition is generally recognised *post-mortem*, but in the present case was suspected during life.

The close association of anthracosis, chronic tubercle, and phthisical cavity with the tumour is worthy of note.

Probably primary carcinoma of bronchus or lung is commoner than statistics would lead one to infer.

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[1] *Trans. Path. Soc.*, 1889, vol. xl, p. 40.

CURRENT TOPICS.

APPOINTMENT.—William A. Sewell, B.Sc., M.B., Ch.B.Glasg. (1909), has been appointed Extra Dispensary Surgeon to the Western Infirmary.

ROYAL INFIRMARY: POST-GRADUATE CLASSES.—The autumn course of post-graduate instruction will be conducted this year as usual in September. The course comprises an extensive series of classes, conducted by a large number of teachers, and classes may be attended as early as 9·15 A.M. and as late as 8 P.M. The subjects taught include clinical medicine, clinical surgery, clinical gynæcology, operative surgery, surgical diagnosis, gynæcological diagnosis, diseases of the throat, nose, and œsophagus, diseases of the ear, diseases and injuries of the eye, diseases of the skin, diseases of the bladder and urethra, electro-therapeutics, and anæsthetics. A course of bacteriology will be conducted in October, November, and December.

WESTERN INFIRMARY, GLASGOW: POST-GRADUATE COURSES.—The medical staff of the Western Infirmary have arranged to conduct during September post-graduate courses in clinical medicine and diseases of the skin.

In the courses in clinical medicine special attention will be directed to rheumatic affections, to gastric disorders, and to nervous diseases.

The meetings will last from 9 A.M. till 10·30 A.M., and the first meeting will take place in Professor Stockman's wards on Tuesday, 3rd September, at 9 A.M.

For particulars as to courses, application should be made to the Superintendent, Dr. Mackintosh, M.V.O.

GLASGOW OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—On 28th June the Honorary President of the Society, Professor J. Whitridge Williams, of Baltimore, delivered his presidential address on the "Pernicious Vomiting of Pregnancy." In the evening Professor Williams was entertained by the Society at dinner in the Windsor Hotel, and was met by a large number of distinguished and representative members of the profession from various centres.

PRESENTATION TO DR. D. J. MACKINTOSH, M.V.O.—On the afternoon of Monday, 24th June, a representative meeting of the managers and staff was held in the Western Infirmary for the purpose of presenting the Medical Superintendent, Dr. D. J. Mackintosh, M.V.O., LL.D., with the full-dress gown and hood of the honorary degree of LL.D. to be conferred on him at the graduation on the following day.

In the unavoidable absence of the chairman of the Board, Sir Matthew Arthur, Bart., Mr. Arthur Hart, vice-chairman, presided, and in a happy and eloquent speech said that they were all delighted when they heard that the University had decided to confer on their Medical Superintendent the honorary degree of Doctor of Laws. They who knew Dr. Mackintosh felt that the honour was richly deserved, and to mark the occasion, and, at the same time, as a small expression of their appreciation of his services to the infirmary, he had pleasure, on behalf both of his colleagues on the Board of Managers and of the medical and surgical staff, in asking Dr. Mackintosh to accept the robes appropriate to the degree.

Sir George Beatson, in proposing a vote of thanks to Mr. Hart for presiding, referred to the pleasant relations which had always existed between Dr. Mackintosh and the staff of the infirmary.

Dr. Mackintosh, in acknowledging the gift, said that he had great difficulty in replying. He had always tried to do what he thought would be for the good of the infirmary, and he felt that the present occasion might be taken as an indication that he had not altogether failed in his endeavour.

MEDICAL RECIPIENTS OF HONORARY DEGREES.—One of the functions on Commemoration Day at the University is the conferring of honorary degrees, and it was noticeable that at the recent graduation three of the recipients of the LL.D. degree were already medical graduates of the University. These were Emeritus Professor Sir Hector C. Cameron, M.D. Glasg., LL.D.St. And., Hon. Sir John M'Call, M.D.Glasg., and Donald J. Mackintosh, M.B., C.M.Glasg., M.V.O.

In presenting the recipients for the degree, Professor Glaister, Dean of the Faculty of Law, spoke as follows:—

"Sir Hector Clare Cameron has been well known and greatly beloved by generations of medical students, and not less by his former colleagues of this University. Himself a graduate in medicine of Glasgow in 1866, a former president of the Royal Faculty of Physicians and Surgeons of Glasgow, for several years a representative of that corporation in the General Medical Council, and for over thirty years a surgeon of the Royal and Western Infirmaries, Sir Hector was appointed to the Chair of Clinical Surgery in 1900, from which he retired in 1910. In the same year he received the honour of knighthood at the hands of his Sovereign. As an assessor in the University Court for two periods, his wise counsels and ripe judgment on many occasions proved of the highest service to the University. Associated with the late Lord Lister while Professor of Surgery in this University in the pioneer work of antiseptic surgical methods, there is probably no man better qualified to write or speak authoritatively regarding that interesting time and the epoch-making work of his master, whose death the nation greatly mourned. Sir Hector carries with him into retirement from active labour the love of hosts of students and practitioners the world over, the heartiest goodwill and best wishes of former colleagues both in and out of this University, and the grateful thanks and appreciation of the University itself.

"The Honourable Sir John M'Call, Agent-General for Tasmania in London, formerly a Member of the House of Assembly and Member of the Executive Council of that Colony, is a graduate in medicine of this University, having graduated Bachelor of Medicine in 1881 and Doctor of Medicine in 1905. His services to the Colony have been recognised by his appointment to the prominent representative position which he now holds in London, and his services to the Crown by the Knighthood which was conferred upon him last year by His Majesty the King.

"Donald James Mackintosh, Bachelor of Medicine and Master of Surgery, Member of the Victorian Order, is a graduate of Glasgow. As Superintendent of the Victoria and Western Infirmaries, his is a familiar name and figure to medical students and to practitioners of medicine throughout the country. Though unostentatious in his work, he has withal succeeded in attaining the position of being looked upon as one of the leading authorities in this country on the construction, equipment, and management of general hospitals by his excellent book of that title. Those responsible for the reconstruction of the Royal Infirmary and for the construction of the Hospital for Sick Children have had the benefit of his advice. As an officer of the Royal Army Medical Corps he played an important part in the equipment for the field of the Scottish Hospital sent to the South African campaign, for which service he was made by Her Majesty of gracious memory a Member of the Victorian Order. As Lieutenant-Colonel he is now in command of the Corps."

LISTER MEMORIAL: EXECUTIVE COMMITTEE FORMED: GLASGOW'S PROPOSALS.—At a meeting called by the Royal Society and the Royal College of Surgeons of England at Burlington House, London, on 22nd ult., an influential executive committee was formed to promote a memorial to the late Lord Lister. Sir Archibald Geikie was in the chair, and representatives from universities and learned societies attended. From Glasgow there were present Lord Provost Stevenson, Principal Sir Donald MacAlister, Dr. James A. Adams, President of the Royal Faculty of Physicians and Surgeons (of which Lord Lister was a Fellow), Mr. A. E. Maylard, M.B., B.S., and Mr. John S. Samuel, hon. secretary of the Glasgow committee. A letter of apology was intimated from Sir Hector Cameron.

Sir Archibald Geikie, in a preliminary statement, outlined the steps that had already been taken to promote an international memorial. There was a general consensus of opinion that an indispensable part of it should consist of a monument in Westminster Abbey. He would suggest that when they were considering the international character of the memorial the executive committee might keep in view the precedent of the memorial to the late Charles Darwin, and appeal for funds for the promotion of research in the particular branch of science with which the great surgeon was associated.

On the motion of Principal Sir Donald MacAlister it was unanimously agreed that Lord Rothschild and Sir William Watson Cheyne, Bart., should be appointed hon. treasurers and Sir John Rose Bradford hon. secretary of the fund.

On the motion of Sir Joseph Dimsdale, seconded by Sir Douglas Powell, the following executive committee was appointed:—The Archbishop of Canterbury, the Lord Chancellor, Viscount Iveagh, Lord Rayleigh, Lord Rothschild, Lord Alverstone (Lord Chief-Justice), Bishop Ryle, the Lord Mayor of London, the Lord Provost of Glasgow (Mr. D. M. Stevenson), the Lord Provost of Edinburgh (Sir William Brown), the Master of the Rolls, Mr. Lewis Harcourt, M.P., Sir Thomas Barlow, Sir W. Watson Cheyne, Sir Rickman J.

Godlee, Sir Henry Morris, Sir Archibald Geikie, Sir Donald MacAlister, Sir Charles Parsons, Sir William Turner, Sir J. Wolfe Barry, Sir John Rose Bradford, Sir Alfred Pearce Gould, Sir Alfred Kempe, Mr. W. F. D. Smith, Mr. Frederick Morris Fry, and Mr. Edmund Owen.

The Chairman having invited suggestions to be placed before the executive committee,

Mr. A. E. Maylard, speaking as one of the representatives of Glasgow, hoped that the executive committee would take into consideration the claims of Glasgow to participate in the memorial, as it was the place where Lord Lister put into practice his system of antiseptic surgery. Among the plans before them were the preservation of one of the wards in the Royal Infirmary, where his great discovery was made, and also the erection of a monument in front of the infirmary.

Dr. Adams, President of the Royal Faculty of Physicians and Surgeons of Glasgow, supported Mr. Maylard's suggestion.

At the conclusion of the meeting the executive committee held a sitting. A general discussion took place as to the possible scope and character of the memorial in addition to the monument in Westminster Abbey. Various suggestions were made. Lord Provost Stevenson, on behalf of the Glasgow committee, submitted that the following proposals should be adopted:—

1. The endowment of a Lister international award or prize to be given from time to time at specified intervals for the most notable contribution to the advancement of surgery made in any part of the world.

2. The inauguration (if funds permitted) of a Lister research fund to be devoted to fellowships, scholarships, or grants, with the object of promoting investigations bearing upon the improvement of surgery.

It was decided to adjourn the consideration of various suggestions until a subsequent meeting. In the meantime these suggestions are to be circulated amongst the members of the executive committee for their consideration.

The question of appointing sub-committees in various parts of the country was postponed.

R.A.M.C. (T.F.)—Captain Brownlow Riddell, M.D., has been transferred from 1st Lowland Field Ambulance to be Registrar, with rank of Major, in 3rd Scottish General Hospital.

R.A.M.C. (T.F.): GLASGOW UNITS' ANNUAL CAMPS.—This year the Field Units of the Royal Army Medical Corps underwent their annual training in camp at Lanark—the 3rd and 4th Scottish General Hospitals went respectively to Portsmouth and Shorncliffe.

The three field ambulances paraded at Gilbert Street Hall, Yorkhill, at 10 A.M. on 12th ult., and, crossing the Kelvingrove Park, entrained at Kelvinbridge Railway Station. Lanark Racecourse Station was reached shortly after 12 noon, when detraining was rapidly carried out, and the Units marched to their camping ground on the Racecourse.

Unfortunately, very heavy rain fell during the afternoon, but during a dry "blink" bedding was served out, so that the men were made as comfortable as possible, and by the evening everyone had settled down and camp life had once more begun.

By the following day (Saturday) the rain was off, and although there was not much sunshine there was a pleasant wind, which quickly dried the tents and clothing. As is usual, there were many fatigue duties to be performed. Officers and men alike worked with a will, and the forenoon saw the camp shipshape.

There is little to say regarding the drills and exercises, which do not change much from year to year. Special attention, however, was paid to the improving of transport, construction of bivouac-shelters, &c.

Two new features in the camp were the "drying marquee" and a new form of refuse destructor. The former was constructed on the principle of the laundry "pulleys" of civil life; in the latter, iron was made use of to form a firebox with a long chimney. The draught was very powerful, and the destruction of refuse, even when damp, was very rapidly accomplished.

The weather was ideal for camping, and burnt faces, with desquamation, soon became general throughout the "lines."

A surprise visit was paid towards the end of the first week by General Sir J. Hanbury Williams, K.C.V.O., accompanied by Colonel Woodhouse, R.A.M.C., D.M.S., Scottish Command, and, in the beginning of the second week, General Spens, C.B., G.O.C., Lowland Division, inspected the camp.

The health of the Units was everything that could be desired, and there were no cases of serious illness.

The Assistant Director of Medical Services, Colonel Mackintosh, M.V.O., was with the Units, and from Lanark as his headquarters made medical inspections of the different camps in the divisional area. Lieutenant-Colonel A. D. Moffat, T.D., was in command of the Units, Lieutenant-Colonels G. H. Edington and H. W. Thomson were in command of the 1st Lowland and Lowland Mounted Brigade Field Ambulances respectively, and amongst other officers were Major W. D. Erskine, R.A.M.C., Deputy Assistant Director of Medical Services, Majors P. F. Shaw and J. M'Kie. Divine services were conducted by the chaplain, Rev. T. Adamson, D.D.

The Quartermasters, Majors Kenny and Lee, were responsible for the feeding of the men, and their services in this important branch of the work were much appreciated.

Major M'Kie was in charge of the sanitary arrangements of the camp, and the result was an admirably organised system for disposal of refuse, soiled water, &c. The latrines, which were on the pail system, were well kept, and the sanitary condition was practically ideal.

Regimental sports were held at the close of the first week, and the number of events and of entries showed that the hard work they had engaged in had in no way damped the enthusiasm of the Units.

Of the many camps held by the Glasgow R.A.M.C. this was one of the most successful, and was a gratifying tribute to the energy which all ranks put into the performance of their duties.

MEDICAL STUDY TOUR.—The Study Tour of the ninth session of the Association Internationale de Perfectionnement Scientifique (Scientific Improvement International Association), patronised by the French Government, has been organised by the Central Board as follows:—

Concentration on 8th August at Besançon. Itinerary: Salzburg, Königsee, Salt-mines of Berchtesgaden, Reichenhall, Tauern, Karawankes, Wochein, Adelsberg Grots, Agram, Danube, Passages of Kazan, Iron Doors, Bucarest, Constantinople (Pera-Stamboul-Scutari), Sofia, Belgrade, Fiume, Abbazia (the Nice of the Adriatic), Trieste, the Peninsula of Miramare, Venice. Séparation on 30th August at Aix-les-Bains.

For an illustrated and fully detailed programme, reference may be made to the June issue of the *Review* of the Association (post free for 60 centimes). Applications may be made to the office of the "A. P. M.," 12 rue François-Millet, Paris, XVI^{e}.

MEMORANDUM ON THE ADMINISTRATION OF SANATORIUM BENEFIT.—The National Health Insurance Commissioners (England), having conferred with the Local Government Board on general questions affecting the administration of sanatorium benefit, have issued the following memorandum for the guidance of Insurance Committees in commencing the administration of the benefit:—

"1. 'Sanatorium benefit' consists of treatment given at the cost of the National Health Insurance Fund to persons suffering from tuberculosis (the chief form of which disease is consumption) or such other diseases as the Local Government Board, with the approval of the Treasury, may appoint (Section 8 (1) of the Act). For the time being the benefit is confined to the treatment of tuberculosis.

"2. The first duty of an Insurance Committee with respect to sanatorium benefit is to make provision for the treatment of cases of tuberculosis occurring among insured persons, for the administration of whose benefit they are responsible. They may, if they think fit, extend treatment to the dependants of insured persons or to any class of such dependants, but during the initial period it will be desirable to confine the benefit to insured persons until the financial liabilities of the committee can be more accurately estimated.

"3. The committee are not under statutory obligation to provide sanatorium benefit for every insured person suffering from tuberculosis who applies to them: they have a discretion in the matter. An insured person is not entitled to the benefit unless recommended for it by the committee in accordance with Section 16 (3) of the Act.

"4. Treatment for purposes of sanatorium benefit may be given: (*a*) in sanatoria, hospitals, or other residential institutions; (*b*) at tuberculosis dispensaries (as defined in paragraph 15), or other non-residential institutions, or in the patient's home. (Further reference to the various kinds of treatment which it may be the duty of the committee to arrange for patients to receive will be found in paragraphs 14 to 18.)

"5. In administering the benefit Insurance Committees are not empowered by the Act themselves to provide institutions. Their duty is to make arrangements with suitable persons or local authorities for this purpose. All such arrangements are required by the Act to be made to the satisfaction of the Commissioners. In the case of those who require treatment in institutions the arrangements must be made with persons or local authorities (other than Poor-law authorities) having the management of sanatoria or other institutions approved by the Local Government Board. Where treatment is required otherwise than in institutions, arrangements must be made for it to be given by persons or local authorities (other than Poor-law authorities) undertaking such treatment in a manner approved by the Local Government Board.

"6. Thus the matters which will require the attention of the Insurance Committee in the administration of sanatorium benefit will be the following:—(*a*) To make arrangements for the medical examination of insured persons applying for sanatorium benefit, and for obtaining expert advice in order that the committee may be satisfied that such persons are in fact suffering from tuberculosis, and, if so, may decide as to the kind of treatment most suitable in each case; (*b*) to decide which, if any, of such persons should not be recommended for sanatorium benefit; (*c*) to make suitable arrangements with a view to proper treatment being provided in each case, in appropriate institutions or in the patients' homes; (*d*) to submit the arrangements proposed to be made to the Insurance Commissioners for their approval.

"*The treatment of tuberculosis.*—7. In order to indicate clearly the kinds of arrangements which it will be open to an Insurance Committee to make for the administration of sanatorium benefit in the case of insured persons, it is necessary to refer to the provision which has already been made, or is likely to be made, by local authorities for the prevention and treatment of tuberculosis in the general population.

"The disease has special features which, as they have become more generally known, have increasingly directed public attention to it. It is spread by infection, widely prevalent, and causes great loss of life, and, as it especially attacks young adults in the most active period of working life, it inflicts serious injury upon the community. The disease is now, however, known to be not only preventable, but eminently curable in a large number of cases with timely and appropriate treatment. In view of these facts it has now become generally recognised that the prevention of tuberculosis, as of other infectious diseases, is a duty devolving upon local authorities, and in recent years many of these authorities have, to an increasing extent, been engaged in the actual treatment of tuberculous persons. By successive orders of the Local Government Board, the last of which came into operation on 1st January last, tuberculosis of the lungs has been made a compulsorily notifiable disease.

Thus, every case in which pulmonary tuberculosis (consumption of the lungs) is diagnosed must be notified to the medical officer of health of the borough, or urban or rural district.

"8. Notwithstanding what has already been effected by local authorities and voluntary effort, the available means of organised expert treatment in the form of sanatoria, hospital accommodation, or dispensaries are, however, at present far short of the needs of the population. In these circumstances Parliament provided under the Finance Act, 1911, a capital sum of £1,500,000 for the United Kingdom to aid the provision of institutions for the purpose. The amount available for England from this sum will be about £1,116,000, which will be distributed in accordance with Section 64 of the Act by the Local Government Board subject to the consent of the Treasury given after consultation with the Insurance Commissioners. Having regard to the capital sum thus provided, and in view of the early operation of the Insurance Act, it became advisable to consider the whole question of tuberculosis in all its bearings, and the Government accordingly appointed, in February last, a Departmental Committee 'to report at an early date upon the considerations of general policy in respect of the problem of tuberculosis in the United Kingdom, in its preventive, curative, and other aspects, which should guide the Government and local bodies in making or aiding provision for the treatment of tuberculosis in sanatoria or other institutions or otherwise.'

"9. In view of the fact that the provisions of the Insurance Act relating to sanatorium benefit come into operation on 15th July, 1912, the Committee issued an Interim Report in which they laid down for the assistance of all concerned in the administration of measures dealing with tuberculosis, whether among the insured or non-insured sections of the population, the broad lines of the scheme which they recommended for adoption in every area, and the recommendations of the Committee are concurred in, generally, by the Local Government Board and the Insurance Commissioners.

"10. The Departmental Committee recognised that the provision for dealing with tuberculosis when occurring among insured persons could not satisfactorily be considered as a separate problem. They made it their object 'to take into consideration the existing machinery and funds available, and to indicate the lines upon which, in their view, a national and comprehensive scheme for combating tuberculosis in all its forms may be established and developed,' and they endeavoured to devise a scheme in which may be united or correlated the activities of the various bodies, authorities, and persons concerned, so as to ensure that adequate provision for the prevention and treatment of the disease should be made available on a systematic basis, as far as possible uniform in character, but not necessarily identical in detail, throughout the United Kingdom.'

"11. For the proper development of satisfactory schemes of administration in each area on the lines laid down in the report of the Departmental Committee, which are briefly summarised in paragraphs 14-21 of this memorandum, time is required in order that Insurance Committees, the county and county borough councils, and the other local authorities and bodies concerned may consider the matter and consult together. Time will also be required, obviously, for the erection of buildings and for the organisation of institutions, including sanatoria, hospitals, and dispensaries. Although in certain administrative areas an organisation (including adequately trained officers) for this purpose has already been created or is in an advanced stage of preparation. in most districts this is not the case. Moreover, there must inevitably be some delay before a sufficient number of medical practitioners possessing the requisite qualifications for the permanent post of tuberculosis officer can be available.

"12. It will therefore be necessary in most districts for arrangements of a purely temporary and provisional kind to be made, in order that such forms of treatment as can be given through existing agencies may be made available for the benefit of insured persons at the earliest practicable date after 15th July, and at the outset each Insurance Committee will have to consider two questions: (1) the permanent scheme which is eventually to be brought into operation, and (2) the provisional agreements that must be made in the area of the Insurance Committee for the administration of sanatorium benefit from the commencement of the Act until the permanent scheme can be brought into operation.

"13. Although in order of time the provisional scheme must first be dealt with by the Committee, it must be remembered that even the provisional arrangements adopted must be framed with careful regard to the lines of the permanent scheme which is subsequently to take its place, in order that the proper development of the permanent scheme may in no way be prejudiced. For this reason it may be desirable to set out here what should be the more important features of the permanent scheme before considering the provisional arrangements that are more immediately necessary.

"*Main features of permanent scheme.*—14. In the report of the Departmental Committee it is pointed out that a complete scheme for dealing with tuberculosis in any area will fall naturally into two parts, called for convenience the 'dispensary unit' and the 'sanatorium unit' respectively. The 'dispensary unit,' which consists of the dispensary (see paragraph 15), acting in co-operation with the private practitioners of the district, deals with patients resident in their own homes, and must provide for the diagnosis of cases suspected to be tuberculous, recommendations as to treatment, and provision of actual treatment for those patients who can be suitably treated in connection with the dispensary.

"The 'sanatorium unit' comprises the various classes of institution available for tuberculous persons who need residential treatment.

"*The dispensary unit.*—15. The term 'dispensary' is used in this connection in a special sense as a local centre of expert diagnosis and treatment. As is pointed out in the report of the Departmental Committee, the essential element is not the building, but the expert medical officer to be designated the 'tuberculosis officer.' He should be a person of such experience, attainments, and professional status as are likely to command the confidence of the medical practitioners of the district, on whose effective co-operation the success of the whole scheme must largely depend. To carry out his duties efficiently he must usually give his whole time to the work of the dispensary.

"16. When necessary the tuberculosis officer will be assisted at the dispensary by a medical staff, which may include private practitioners giving part of their time to this work, and one or more junior whole-time officers. Arrangements for nursing will also usually be necessary.

"17. When the scheme is in full operation persons, whether insured or not, who are suspected to be suffering from tuberculosis should be examined by the tuberculosis officer or officers of the dispensary, who should recommend the kind of treatment most suitable for each. The tuberculosis officer and his assistants could thus act as the medical advisers of the Insurance Committee in carrying out its duty of deciding which insured persons should receive sanatorium benefit, and what kind of treatment should be provided for each. In those cases which can best be treated at the dispensary itself the medical staff will give the necessary treatment. Where the case is treated at home under the care of a private practitioner the tuberculosis officer will act as a consultant, and, with the dispensary staff, will assist the practitioner in such a way as may be necessary.

"When patients return home after a period of treatment in a residential institution, prolonged care and medical supervision may frequently be required, and it will be the duty of the dispensary staff to co-operate with the private practitioner in carrying this out. The dispensary staff will also act under the direction of the medical officer of health in carrying out any duties that are necessary for his assistance in administrative and preventive work for the protection of public health, such as the examination of 'contacts'—*i.e.*, persons who have been associated with tuberculous persons, and may therefore be themselves infected.

"*The sanatorium unit.*—18. Treatment in a residential institution for a longer or shorter period is desirable in a considerable number of cases of tuberculosis. Treatment in a sanatorium is chiefly useful for two purposes—(1) as the first step to the cure of the patient, or at all events to the restoration of his working capacity; and (2) as affording the best opportunity for instructing the patient in the precautions it is necessary he should observe, both for his own health and for the safety of his associates. Treatment in a sanatorium is, therefore, most useful for patients in a comparatively early stage of the disease, and the Departmental Committee express the opinion that 'a short stay in an institution, followed by a course of home treatment, in shelters, &c., under close medical supervision, is a form of sanatorium treatment which has certain advantages, and which may successfully be adopted in a large number of cases.' Hospital accommodation is chiefly required—(*a*) in emergencies; (*b*) for cases needing operative treatment; (*c*) for cases of acute disease, in order that the patient may be kept under observation until the kind of treatment required is ascertained; (*d*) advanced cases, who may be dangerous sources of infection if not properly cared for, and for whom proper accommodation cannot be provided at home. The sanatorium unit may comprise also such institutions as farm colonies, open-air schools, &c.

"19. When the scheme is in full operation it will be for the Insurance Committee to decide what insured persons are suitable for treatment in sanatoria or hospitals, or in other residential institutions, and to make the necessary arrangements. In this decision it will usually be most satisfactory, as already explained, that they should be guided by the advice of the tuberculosis officer, provided that suitable arrangements for this purpose can be made with the county or county borough council.

"*Organisation of local schemes.*—20. It is recommended in the Departmental Committee's Report that the whole scheme should be organised and managed by the county council or county borough council, acting in co-operation, in the case of the county council, with the local sanitary authorities of the area, and in both cases with the Insurance Committee and with charitable and other voluntary organisations concerned in the prevention or treatment of tuberculosis.

"21. Insurance Committees will be consulted in the preparations of such schemes, and the Insurance Commissioners will ascertain the views of the Insurance Committee of each area before finally expressing an opinion on proposals involving capital expenditure for provision of institutions for that area. In considering schemes the Insurance Committee will doubtless have regard to the prospective requirements of the insured in relation to the various kinds of treatment. Important indications under this head are given in the report of the Departmental Committee.

"22. It is further proposed that in order to promote the necessary co-operation of all the bodies concerned a Consultative Committee should be formed by the county or county borough council in which members of the Insurance Committee nominated by that committee should be included, the county or county borough council agreeing with the Insurance Committee to be advised by the Consultative Committee on questions of administration of the dispensary or dispensaries, and cognate matters. It is proposed that voluntary organisations engaged in this work should also be represented on the committee.

"*Financial arrangements.*—23. Under the provisions of Section 16 (2) of the Act, each Insurance Committee will have, as its ordinary income for the provision of sanatorium benefit, a sum of 1s. 3d. per annum on account of each insured person for the administration of whose benefit the committee is responsible. A sum of 1d. per insured person per annum is also provided by Parliament, but will be applied by the Commissioners in accordance with the provision of the Act to purposes of research. Thus when the Act is in full operation, the Insurance Committee of a county or county borough which included 40,000 insured persons would have at its disposal an annual income of £2,500 for provision of sanatorium benefit.

"24. The committee may make arrangements for providing treatment of the various kinds required by negotiating with those managing sanatoria or hospitals as occasion arises. Section 64 (4) of the Act empowers the committee to make arrangements in advance for such periods as seem expedient. This will usually be the preferable course, especially in what will doubtless be the ordinary case—namely, where the arrangement is made with the council of the county or county borough to which the Insurance Committee themselves belong, or with a joint body on which that council are represented.

"25. The arrangements will differ according to the kind of institution in view. In the case of residential institutions, such as sanatoria or hospitals, the committee may make an arrangement with the county council or other local authority to pay a fixed sum per head, guaranteeing that in any given year the total contribution in this respect shall not fall below a fixed minimum.

"26. In the case of a dispensary the contribution made by the Insurance Committee may be considered as falling under two heads—viz., first, the payment for the treatment of insured persons by the dispensary staff, and, secondly, the payment, if any, in consideration of any arrangements made for the tuberculosis officer to act as adviser to the Insurance Committee. The payment under the second head must obviously take the form of a fixed annual payment, and the payment for treatment may also be a fixed annual amount. In fixing the amount paid in consideration of treatment, regard will doubtless be had to the fact that the dispensary will usually provide for the needs, not only of those for whom the committee are responsible, but of the general population.

"27. Where arrangements are entered into with general practitioners for the treatment of patients in their own homes, payment will be made to those practitioners on a basis which should be agreed upon, if practicable, with the medical profession of the district, and to this end it will be convenient that the committee should consult the local Medical Committee if any such has been recognised by the Commissioners under Section 62 of the Act.

"28. In making arrangements for the treatment of insured persons the Insurance Committee must bear in mind that in the case of residential or dispensary treatment the institution must have been approved by the Local Government Board, and that as regards non-institutional treatment the manner of treatment also requires the approval of that department.

"29. These contracts will not necessarily in all cases be made with local authorities. Where, for example, the treatment is undertaken by a private medical practitioner the contract may be made with the practitioner direct. Similarly, as regards institutional treatment, arrangements may in some cases be made with private persons and bodies controlling sanatoria, hospitals, or any other institutions.

"30. Assuming, however, the proposals of the Departmental Committee to be generally carried out by local authorities, arrangements for obtaining treatment for insured persons will be made, in the large majority of cases, with county councils, county borough councils, or, possibly, other local authorities. Where an Insurance Committee thus enter into arrangements with a county or county borough council undertaking the organisation of a complete scheme, it will probably be found most advantageous in every respect that such arrangements should be embodied in a comprehensive contract in which are specified (1) the payments to be made in respect of treatment in sanatoria, hospitals, or other residential institutions, controlled by the local authority, and (2) payments in respect of treatment in dispensaries, and (3) the terms on which the services of the tuberculosis officer shall be placed at the disposal of the Insurance Committee as their expert adviser in regard to the diagnosis and treatment of cases of tuberculosis.

"31. All such arrangements must be to the satisfaction of the Insurance Commissioners, who are prepared to advise the Insurance Committees generally in the matter.

"32. Among the matters dealt with in such general agreement should also be the question of the formation of a Consultative Committee, the representation of the Insurance Committee thereon, and the definition of the questions on which the committee should advise. On this subject the Departmental Committee recommend 'that arrangements should be made whereby, in view of the payments that would be made by Insurance Committees (under agreements for a term of years) towards the expenses incurred in connection with the dispensary in respect of the committee's patients, the councils might agree to be guided, in matters appertaining to the staffing and internal management of the dispensary, by the advice of a Consultative Committee consisting of members of the two bodies appointed by the respective parties in some agreed proportion.'

"*Arrangements to be made at the commencement of the Act.*—33. For the reasons already stated it is evident that in most districts the system of dispensaries, sanatoria, &c.,

above described will not be available for some time after the commencement of the Act. Where and so far as it is not available, it will be necessary for the Insurance Committee to make temporary arrangements at the outset.

"34. Moreover, the amount available for purposes of sanatorium benefit during the six months, July 15th, 1912, to January 12th, 1913, will be less than the amount which would be available in a similar period after the Act is in full operation, and for several reasons special financial arrangements will be made for this period. Under these arrangements each committee will, as from the commencement of the Act, be credited with a sum equivalent to about £4, 5s. per 1,000 of the total population of its area. The expenditure necessary to provide such treatment as can be given in this period will not be so great per head as when approved schemes are developed by the local authorities, because the accommodation in sanatoria, in which institutions the expense of treatment is greatest, will for some time be limited. It may be possible for the committee to obtain treatment for a small number of cases in sanatoria and hospitals, but the majority of cases must be treated in dispensaries or at home, and it is further to be noted that, except in certain towns where the local authorities have already made considerable provision, dispensaries cannot be expected to be in working order for some time to come.

"*Provisional scheme of selection and treatment.*—35. In making the necessary arrangements for administration at the commencement of the Act, the Insurance Committee should, at an early date, place themselves in communication with the county or county borough council with a view to the medical officer of health attending a meeting of the committee, as provided in Section 60 (2) of the Act, and advising them on the necessary arrangements. The matters which the Insurance Committee must in the first place consider, after taking the advice of the medical officer of health, are the following:—(*a*) The method by which persons applying for sanatorium benefit shall be medically examined and reported on, and recommended for the various kinds of treatment available; (*b*) the institutions and means of treatment available for patients, and the arrangements which it is desirable should be made with the local authorities or managing bodies for their use. When a provisional scheme of arrangements has been arrived at, the Insurance Committee should submit their proposals to the Commissioners for approval.

"36. As regards the first of the above matters, viz., the method of medical examination and report, the Commissioners have consulted the Local Government Board, and are of opinion, the Local Government Board concurring, that the following procedure will enable the committee to deal with the administration of the benefit, so far as it can be dealt with at the outset, in those districts where a tuberculosis officer has not been appointed and the agencies available are very limited. It is suggested, briefly, that in these areas the medical officer of health of the county or county borough might, properly, if on the committee's application the council agree to such arrangement, be appointed to act temporarily as the expert adviser of the committee in dealing with individual applications for sanatorium benefit. Where such an arrangement is made, an insured person who believes himself to be suffering from tuberculosis, and wishes to obtain sanatorium benefit, would apply to the clerk (or acting clerk) of the Insurance Committee. The clerk will furnish him with a blank form of medical report, which the patient will be advised to take to his ordinary medical attendant, or any other medical practitioner he may prefer. The practitioner should be asked by the patient to make the necessary examination, and fill up the particulars indicated in the form. A fee should be paid by the Insurance Committee for the examination and report, and the Commissioners are advised that a fee of 5s. will be regarded as suitable for this purpose. Reports should be forwarded to the medical officer of health, or other medical adviser appointed to assist the committee in this matter. On his advice the committee will select the cases that stand most in need of sanatorium benefit, and decide what kind of treatment should be provided in each case.

"37. Even where it is decided that a patient should, if possible, be admitted to a sanatorium or hospital, an interval may elapse before admission can be obtained, and it may be necessary to make arrangements for the care of the patient in this interval. Where a dispensary is available, a patient may be referred to it for some form of special treatment; in other cases arrangements should be made for the home treatment of the patient by a private practitioner. The general scheme of home treatment will be subject to the approval of the Local Government Board. The arrangements for treatment by private practitioners may be made in various ways; for instance, where this course is found more convenient, the patient may be authorised to obtain from his own medical attendant such treatment as may have been sanctioned in his case by the Insurance Committee to be provided at the cost of the funds of the committee.

"38. The Commission fully realise that the duty entrusted under the Act to the Insurance Committees of securing treatment for tuberculous persons necessarily involves the consideration of many important problems, both technical and administrative. They are, however, confident that local authorities and their officers will at all times lend the Insurance Committees such assistance as they are able. The Commission will themselves be ready to advise and assist in any questions of difficulty that may be submitted to them, and they will be glad to learn at an early date of the arrangements contemplated in the area of each committee.

"*6th July, 1912.*"

NEW PREPARATIONS, &c.

From Ecsōlent Compounds, Limited.

Ecsōlent Soap, Powder, and *Compound.*—These are intended for use in the treatment of eczema and skin diseases. We understand that the basis of the ointment is soft paraffin, and that it contains zinc oxide, starch, boric acid, and resorcin, with small quantities of a number of antiseptic and aromatic substances. The soap is said to be superfatted, and to contain, as does the powder, some of the antiseptic and aromatic compounds present in the ointment, while the basis of the powder is said to be talc, with zinc oxide, starch, and boric acid.

The proprietors publish a long list of testimonials from medical men, headed "printed by special permission," praising the action of these substances in various diseased conditions of the skin, such as eczema, pruritus, acne, sunburn, &c. To judge from these, many have found them of great use.

From Messrs. Hertz & Co.

Levico Water, Mild and *Strong.*—These are two sample bottles of water stated to be imported from the Springs of Levico. From the analysis published, it appears that these both contain arsenious acid and salts of iron—the strong contains in a pint $\frac{1}{12}$ grain and 34 grains respectively of these ingredients, and the mild $\frac{1}{120}$ grain and 8 grains per pint. Some copper is present in the strong. They are put forward for use in certain diseases of the blood, of the skin, and of the nervous system.

The dose recommended is one to two tablespoonfuls of the mild for two or three weeks, then similar doses of the strong, increased to double the amount if the physician deems it advisable.

From Messrs. Burroughs Wellcome & Co.

"*Tabloid*" *Hypodermic* "*Ergamine*" (0·001 gm.).—This small tabloid is stated to contain a recently isolated active principle of ergot, called "Ergamine." This is stated to be an organic base, viz., β-Iminazolylethylamine. This base can now also be produced synthetically. It is recommended for use where prompt contraction of the uterus is desired, as in cases of post-partum hæmorrhage.

"*Tabloid*" *Ophthalmic Pilocarpine Nitrate* ($\frac{1}{3000}$ gr.). "*Tabloid*" *Physostigmine Salicylate* ($\frac{1}{4000}$ gr.).—These are thin soluble discs for use in ophthalmic practice, where these drugs are indicated.

From Messrs. Parke, Davis & Co.

Hay Fever Reaction Outfit and *Pollen Vaccine for Hay Fever.*—These are complementary to one another. The reaction outfit contains 7 capillary tubes containing 7 strengths of pollen extract. These are used for determining the susceptibility of a patient to hay fever, and are easily used. After the degree of susceptibility has been determined, a suitable amount of pollen vaccine (of strength corresponding to that advised for use in the particular case) is injected at intervals in the usual way.

The literature accompanying the samples is very clearly worded, and practitioners who have to deal with cases of suspected hay fever would do well to communicate with the firm. The outfit is remarkably neat and convenient.

MEETINGS OF SOCIETIES.

OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.

SESSION 1911-1912.

MEETING VIII.—24TH APRIL, 1912.

The President, DR. A. W. RUSSELL, *in the Chair.*

I.—SPECIMENS.

BY DR. G. BALFOUR MARSHALL.

1. Carcinoma involving whole thickness of uterine wall with secondary involvement of the sigmoid colon. The uterus was removed by total hysterectomy, and 5 inches of the colon resected followed by an end-to-end anastomosis. Microscopic examination shows a very malignant carcinoma of the scirrhus type.

The patient was aged 59 years, and had a history of uterine hæmorrhage for six months; foul-smelling discharge; pelvic pain, increasing in severity; and progressive loss of flesh and strength.

The patient died four days after operation, and *post-mortem* examination showed a very fatty heart and advanced fatty change in the liver. The anastomosed gut had healed well and held water. There was no peritonitis. The cause of death was given as cardiac failure due to the degenerated heart, and there was a possibility of delayed chloroform poisoning judging by the very fatty liver.

2. Myxomatous polypi projecting from the cervix uteri in a patient aged 19 years with microscopic sections.

3. Two examples of large mucous polypi of the cervix.

Microscopic sections of large and small polypi from the cervix uteri—Simple myxomatous.—The greater part of the tissue is myxomatous. Around some blood vessels and around a few gland acini there are areas where the cells, though not unlike sarcoma cells, are yet quite in keeping with stroma cells often seen in an inflamed endometrium. The surface of the polypus at one part is ulcerated and necrotic, and in this neighbourhood there is an area with varying sized irregular cells showing karyokinetric figures, and quite sarcomatous looking. This is no doubt evidence of proliferative activity, but is most likely the reaction to infection of the mass.

II.—CASE OF RIGHT OVARIAN CYSTOMA WITH ACUTE TORSION OF THE RIGHT FALLOPIAN TUBE AND MESOSALPINX, COMPLICATING A SIX MONTHS' PREGNANCY.

By Dr. G. Balfour Marshall.

The patient was first seen on 17th October, 1911, when four and a half months pregnant, complaining of attacks of pain in the right lumbar region said to follow a blow on the loins four years previously. Examination revealed a cystic ovoid tumour occupying the region of the right kidney. This was at first diagnosed as a right sided hydronephrosis, owing to its position and the result of careful repeated examination. The tumour seemed fixed, moved with respiration, and had the ascending colon lying in front. The urine was diminished in quantity, as little as 23 oz. being passed on some days. Chromocystoscopy showed an absence of urine escaping from the right. *X*-ray photographs also showed the cyst occupying the position of a hydronephrosis.

The patient was kept under observation for three weeks, during which time she had only three attacks of pain, so she was sent home to allow the pregnancy to advance. Three weeks later she was readmitted to hospital with acute abdominal symptoms, which now led to a diagnosis of ovarian cystoma with torsion of the pedicle. An immediate laparotomy was performed and the cystoma removed. There was acute torsion, not of the pedicle, but of the tube and broad ligament, the twisted structures being enormously swollen from engorgement. Hæmorrhage had occurred with the cyst which had ruptured.

The patient aborted next day. Her convalescence was delayed by an attack of right basal pneumonia, but her recovery was good.

After the operation the quantity of urine secreted was normal, so that pressure had accounted for the previous scanty secretion.

III.—BILATERAL OVARIAN CYSTOMATA WITH SYMPTOMS SIMULATING ACUTE TORSION OF THE PEDICLE, AND ASSOCIATED WITH GREAT ELONGATION OF THE DISTENDED FALLOPIAN TUBES.

By Dr. G. Balfour Marshall.

The patient, aged 41 years, had been married for eighteen years, but was sterile, and was admitted to hospital as an urgent case with symptoms suggesting acute torsion of the pedicle of an ovarian cystoma. Since puberty she had enjoyed good health apart from pre-menstrual dysmenorrhœa. The last normal menstrual period was followed a week later by profuse uterine hæmorrhage, which lasted one week. On its cessation the patient began to suffer from attacks of severe colicky pain in the left ovarian region. These attacks occurred daily for two weeks, when the patient was admitted to hospital owing to the discovery of a tumour.

Micturition and defæcation were painful. The patient was examined on admission, and a bilateral ovarian cystoma diagnosed. The patient had symptoms of acute peritonitis ascribed to torsion of the pedicle of the left cystoma.

An emergency laparotomy was performed, and, although acute peritonitis was present, there was no torsion. Both cystomata were universally adherent, necessitating the removal of the uterus as well to effect the thorough removal of the tumours. Both tubes formed a myxosalpinx with thick wall, and were stretched out to an enormous extent, the left tube being 11¼ inches long, and the right 7¼ inches, and having a circumference of 2½ to 4 inches. The left cystoma measured 7½ by 4½ inches, and the right 5¾ by 4¼ inches.

The adhesions were old and not the result of the acute peritonitis. Dr. Marshall considered that there had already existed a chronic salpingo-oöphoritis with matting of both tubes and ovaries to the broad ligaments, and that when cystomata developed the dilated tubes were stretched over the growing tumours, as occurs with a normal tube over a large broad ligament cystoma. The acute peritonitis was considered to be due to crushing and injury to the tumour, as the left cystoma was so fixed it could not rise out of the pelvis, which it completely filled on the left side. It also severely pressed on the pelvic colon.

The specimens and drawings of these were shown.

IV.—OVARIAN GRAFTING.

By Dr. A. Louise M'Ilroy.

I have been much impressed, in following out the after-histories of cases where I had performed double oöphorectomy, by the great discomfort which some patients suffer from after the removal of the ovaries. These disturbances are mainly vaso-motor in origin, but are of such severity that I have been told by patients that the previous pelvic pain was almost preferable to the nervous phenomena which occurred after operation. Fortunately such women can be assured that, though these symptoms may be severe in character, they are of a transient nature and will disappear in time.

My experience has been that the sooner the menopausal symptoms occur after operation the more severe are they in character. In some cases I have observed the onset of symptoms within six weeks of operation.

As every gynæcologist knows the difficulties of successful treatment of the neuroses of the menopause, any method that could be adopted for their alleviation should receive some consideration. For this reason it appears to me that there is a future for the use of ovarian transplantation in operative gynæcology, and as a preliminary I have undertaken a series of experiments in rabbits with the view of finding out the best mode of procedure to be adopted, and the advantages to be gained.

The further one proceeds upon researches into the physiology of ovarian function, the more is one impressed with the fact that the ovary is not solely an organ for reproductive purposes, but is one with an internal secretion which has a profound influence upon the general metabolism of the individual. In operative practice, therefore, the removal of both ovaries should be contemplated only when the organ is the seat of grave pathological lesions.

It has been proved experimentally that the removal of one ovary has little effect, the remaining organ taking upon itself the function of both, and in many cases showing considerable hypertrophy of the tissue. Even when only a portion of one ovary is left, it has the property of taking on the function of the whole ovary, increasing in size, and producing oöcyctes, which may become fertilised. To the gynæcological surgeon there often comes a moment of doubt as to the advisability of complete extirpation of both ovaries, as in young women, the subjects of chronic inflammatory pelvic mischief, where both sets of appendages are completely matted and buried in adhesions. Experience has shown that, if a portion of one or both ovaries is left behind, the patient may still complain of pain, and report herself as little improved by the operation. The explanation of such cases may be found in the fact that the portions of ovary, by their process of recurrent physiological activity, keep up a constant irritation among surroundings which are prone to take on bacteriological invasions. In such cases the removal of a portion of the ovary from its normal position, and its transference to a distant non-infected area, would appear to give good results by the continuance of its physiological function as an internal secretory organ. Double oöphorectomy performed before puberty causes an arrest in the development of the other reproductive organs, and an absence of the secondary sexual characters of the female.

After puberty the change is less marked, but it has been found experimentally in animals that the uterus, external genitals, and mammæ atrophy after double oöphorectomy. Metabolic changes occur, such as an increased deposit of fat. It is supposed that there is a diminution in the excretion of calcium and phosphorus salts.

As a counter influence to these changes, numerous experiments have been recorded as to the successful results of ovarian transplantation. In young animals after ovarian grafting the uterus continued to develop, and in adult animals atrophy did not take place.

The most successful grafts have been found among those implanted into a vascular organ, such as the kidney or spleen. Ultimate degeneration takes place, the most noticeable part of the ovary to show absorption changes being the follicles. In the human female, ovarian grafting has been found of benefit by Tuffier and others in counteracting the symptoms of the menopause, the most suitable site being the abdominal wall or peritoneum in the neighbourhood of the uterus. Grafts from the patient's own ovaries are more successful than those from another individual. The grafts become absorbed in time, but have served their purpose in assisting the organism to become gradually adapted to the changes in metabolism, which occur when any interference has taken place in the equilibrium maintained by the ductless glands.

It has been found that menopausal symptoms are less severe after operations where the uterus has been left behind than in those where it has been removed with the ovaries. It is therefore to be questioned whether the practice advocated by modern operators of total removal of the uterus along with diseased appendages has not its subsequent physiological disadvantages. The uterus has no effect upon the function of the ovaries, but acts as a channel for the elimination of metabolic products. In some of my cases I have observed menopausal symptoms recurring at cyclic intervals almost corresponding to the rhythm of a menstrual period. It is just possible that the other ductless glands are attempting to carry out the metabolic function of the ovaries, and that elimination takes place by the uterus, or even a portion of the cervix, which has been left behind. This might offer an explanation for the increased severity of symptoms after removal of the uterus.

It should, therefore, be borne in mind that wherever possible a portion, at least, of the ovary should be left behind; and where this is found to be inadvisable, the question of ovarian transplantation should be considered.

V.—THE RETRACTION RING AS A CAUSE OF DYSTOCIA.

By Dr. David Shannon.

During the course of a protracted labour in which there is some definite obstruction, the retraction ring becomes palpable and is an indication of grave danger. In such cases its presence is the result of obstruction, not the obstructing factor. The case of which I write appears to me to be of interest from the fact that the retraction ring was not the result of obstruction, but the cause of it. Such cases are rare, and are fraught with great danger to the mother and her child.

I was asked by Dr. S. to see a patient of his in consultation. She was a vi-para, aged 42 years. Her previous confinements had been normal. Two years ago I curetted her for an endometritis. When I saw her the labour had been in progress for nearly forty-eight hours, and for nearly a week before she had complained bitterly of indefinite abdominal pains all over the uterine area. The labour pains were colicky in nature; they were not frequent, and they did not seem to have much effect in causing dilatation of the os. The external os four hours before I arrived was the size of a shilling, but when I examined her it was nearly fully dilated, and the membranes were intact. The fœtal head remained at the brim of the pelvis, and showed no tendency to engage.

This struck me as a curious state of affairs, for here was a patient having excellent pains, the os practically fully dilated, yet the head was movable above the brim and making no progress, although the pelvis was normal and the fœtal head not too large. This, I believe, is an important point in the diagnosis of the condition. The anterior fontanelle was directed towards the left side and above the brim. Abdominal palpation was unsatisfactory as the patient was very stout.

Having failed to apply forceps, I passed my hand into the uterus, and only then did I diagnose the cause of dystocia. I felt the retraction ring grasping the child's neck tightly—so tightly, in fact, that I had difficulty in getting my finger past it. It appeared to be a narrow band extending around the uterus. Below it the lower uterine segment, containing the fœtal head, could be made out. The umbilical cord was twice round the child's neck.

I asked her doctor, who administered the anæsthetic, to put her very deeply under in the hope that the tension of the ring would be relieved, but this did not occur to any marked extent. I then dilated the ring manually, sufficiently to allow me to get hold of a foot which lay quite near. The membrane ruptured at this stage. With difficulty I pulled the foot down, and as I did so the head went back into the upper uterine segment. I managed to pull the breech into the ring and slowly pulled it through. The other leg was fully extended and most difficult to deliver. The retraction ring now contracted tightly round the chest of the child, the arms being extended over the head. Their delivery was the most troublesome part of the operation, and took me fully twenty minutes to accomplish, as I had to be most careful in case the uterus ruptured; as soon as the arms were released the retraction ring once again firmly grasped the fœtal neck. Steady traction was made on the trunk of the child, and gradually the head dilated the obstruction and was born. The difficulty was not yet over, as once the child was born the retraction ring contracted again and impeded the third stage. With much trouble I removed the placenta manually, and immediately after the uterus was emptied the ring suddenly disappeared.

The treatment I adopted in this case was dangerous, and I would not recommend it owing to the danger of rupture of the uterus. Under the circumstances, however, it was the only procedure I could carry out, as I had not my cranioclast and cephalotribe with me. It was successful, I think, because the liquor amnii was present. In such a case the proper treatment is Cæsarean section if the child is alive, and craniotomy if the child is dead.

In this case the child was dead before the operation began, and I am inclined to think that death was due to compression of the retraction ring on the umbilical cord as it wound round the child's neck.

REVIEWS.

A Surgical Treatment of Locomotor Ataxia. By L. N. Denslow, M.D. London: Baillière, Tindall & Cox. 1912.

To anyone who has in mind the recent operations for the cure of gastric crises by division of the posterior spinal nerve roots, and by division of the vagi, the title of this volume must awaken thoughts of very drastic surgical interference. It is a relief to find that Dr. Denslow's treatment is much more simple, and consists essentially in attention to the diseased conditions of the urethra which are common in locomotor ataxia. He recognises, like everybody else, the close connection of the disease with syphilis, but he argues that as locomotor ataxia is relatively uncommon in comparison with the large numbers of those in whom the syphilitic toxins have an opportunity of producing changes in the cord, there must be some more efficient exciting cause. This he finds in long continued peripheral irritation, which produces reflex disturbances in the cord and brain, and ultimately leads to the establishment of pathological changes. He cites in support of his views the experiments of Mathews, who has shown that the colloid particles of the fats contained in nervous substance are precipitated by electrical stimulation, with the result that some degree of coagulation is produced, and he infers that a continuous succession of sensory impulses may similarly exhaust the nervous elements, and may be expected to be effective, in the first place, at the point of least resistance, *i.e.*, where the nerve substance has lost its neuroglia, at the ring of Obersteiner in the posterior roots. Looking for the source of the peripheral irritation which he postulates, he finds it in the condition of the urethra, which is the seat of erosion, stricture, hyperæsthesia, or other morbid change, apparently in almost every instance. He devotes a chapter to the various reflex phenomena which have been shown by different observers to depend on urethral disease, and to disappear with its removal. Among these, even apart from locomotor ataxia, lightning pains, partial paralysis, and impotence have been recorded. The rest of the volume is occupied by a description of the cases, forty in all, which Dr. Denslow has treated by incision of the internal meatus, the passage of sounds, and other appropriate measures. Of these cases, nineteen were treated at the Charcot Clinique of the Salpêtrière, and have, therefore, been very closely observed. It must at once be granted that the results in almost every case are very striking, and amount in many instances to what is virtually a clinical cure, the patient being able to resume his occupation without ataxy or pain, and with renewed control over the function of bowel and bladder. Even impotence has yielded, a case being reported of complete sexual disability in which after treatment the patient has twice become a father.

Dr. Denslow's volume will do good service in calling attention to a too much neglected factor in the treatment of locomotor ataxia. It is, of course, known that urethral disorders may require attention in the course of the disease, but it is not yet realised how far-reaching may be their effects. Whether the author is right in maintaining that they are the true exciting cause of tabes is another matter. To substantiate his view he would require to show that they exist in every case, and the question is hardly to be settled upon the forty cases that he presents. An apparent exception to his conclusions is furnished by cases occurring in females. These are, indeed, less common, but their number is not negligible.

The Feeble-Minded. By E. B. Sherlock, M.D., B.Sc.Lond., D.P.H. London: Macmillan & Co., Limited. 1911.

The book is intended as an introduction to the subject of feeble-mindedness. The earlier chapters deal with psychology, the relationship between mind and body, and the views held by different psychologists regarding that relationship; they give also an account of the evolution of the nervous system, a description of the fully developed cerebral cortex, and of the nervous mechanism concerned in speech. The feeble-mind is separately considered: it is a departure from the normal constitution of mind—ordinarily dependent on sensations for its development; there are psychical peculiarities of the feeble-mind as regards presentation, memory, affection, and attention. Many of the symptoms of feeble-mindedness result from ill-regulated instincts as regards food and speech, the latter depending on abnormality of the sensory and motor apparatus, or on mental defects.

The physical conditions associated with feeble-mindedness comprise those affecting nervous and non-nervous elements. With reference to the former, in addition to gross abnormalities of the encephalon, the number of nerve cells, their quality, the proportion of different types, and their connections, are considered. Of non-nervous elements, the neuroglia, ependyma, vessels, meninges, skull-cap, scalp, &c., as well as other parts of the body, receive attention, and the relation of brain weight to body weight and to height.

Cases of defective cerebral development are divided into two groups—those in which the tendency to abnormality is innate, and those in which it is dependent on environment. The laws of inheritance are discussed, and the various views regarding their influence in the production of feeble-mindedness.

There is a review of suggested classifications of the feeble-minded. A classification dependent on innate and environmental etiological factors is condemned, because of the uncertainty regarding the mode of origin of cerebral defects. The best practical classification is that adopted by the Royal Commission. A combination of the different systems is advocated by the author. He divides the feeble-minded into two main groups—the morally and the intellectually feeble-minded. Of the latter class there are nine clinical subdivisions, in each of which will be found examples of the three grades of mental defect—idiocy, imbecility, and weak-mindedness. Epilepsy is considered in relation to these different forms of defect, seeing it occurs in different types of feeble-mindedness. Each of the clinical types is separately dealt with.

The closing chapter on the handling of the feeble-minded is largely an exposition of the views of the Commissioners on the care and control of the feeble-minded, with additions from the author's own experience. Part of the chapter is devoted to a consideration of what might be done by the establishment of a farm or industrial colony, including a plan of such colony, suggestions regarding accommodation, staff, the obtaining of control, the examination of cases admitted, the training, and the treatment.

There is an index both of subjects and of authors. Bibliographical references occur with great frequency throughout the volume, and there is a considerable number of illustrations. In an introductory note, Sir H. B. Donkin commends, among other things in the book, the scientific treatment of the nature of mind, the suggested classification, and the method of control advocated.

Unsoundness of Mind. By T. S. CLOUSTON, M.D., LL.D., F.R.S.E. London: Methuen & Co., Limited. 1911.

SIR THOMAS CLOUSTON has attempted to provide the layman with a clear concise account of unsoundness of mind, its recognition, treatment, and prevention, and is of opinion that with such increased knowledge early symptoms will be recognised and treated, preventive efforts made, and sanity promoted. All known mental disorders are included, as well as borderland cases.

After a short description of what is meant by unsoundness of mind, there is a classification of mankind, from a mental point of view, into eleven orders, six of which are technically sane, and a diagrammatic representation of the proportion in which each occurs. There is a short general description of the minute anatomy of the brain and of its functions. As regards causation, bad heredity, toxins, and social causes are the most important; but more than one factor is usually responsible, the first-named commonly underlying all others.

There are several chapters dealing with different etiological factors. In the chapter on heredity the views of authorities are discussed shortly, attention is called to the need for altruistic motives in the prevention of unsuitable marriages, and a number of practical rules are given for ascertaining facts regarding nervous heredity and for counteracting the effects of such heredity. There is a chapter on preliminary and early symptoms, and the reader is warned not to exaggerate the significance of some of the symptoms mentioned, but to take them in connection with other facts regarding the patient. The various forms of mental disease are described and the lines of treatment indicated, the drugs that are useful being merely named. There is a chapter on amentia, which is largely a digest of Dr. Tredgold's book, *Mental Deficiency*.

The general principles of diagnosis, management, and treatment, mental hospitals, the relation to crime, and the hygiene of mind, are among other aspects of the subject that receive consideration.

There are thirteen illustrations, all relating to the histology of the brain.

We notice that the name of Dr. John Macpherson is sometimes spelled one way, sometimes another; those of Dr. Hayes Newington and *Baillarger*, if we mistake not, are also mis-spelled.

There are approximately 350 pages; the style is sufficiently popular, and the author's purpose in writing for the lay public would have been well served, we think, if those parts dealing with diagnosis, early symptoms, and treatment had been omitted.

Symptoms and their Interpretation. By JAMES MACKENZIE, M.D., LL.D.Aber. & Edin. Second Edition. London: Shaw & Sons. 1912.

IT must be very gratifying to Dr. Mackenzie to have this work translated into other languages, as well as to have a call for a new edition in English, and we cordially welcome the appearance of this new issue. Dr. Mackenzie is so able a clinical observer that everything he teaches demands attentive study by other physicians, and, although certain views which he holds may not be accepted in their entirety by others, his manner of propounding them, and the clinical observations upon which he bases them, may well stimulate his readers to reflect more carefully over the sensory disturbances with which they meet in practice, and to endeavour to arrive at a more accurate explanation of such phenomena than that with which they may have been content in the past.

The book is printed in large type, and is furnished with eighteen figures and an index. We heartily recommend it to the careful attention of our readers.

Acromegaly: A Personal Experience. By LEONARD PORTAL MARK, M.D. London: Baillière, Tindall & Cox. 1912.

QUITE a host of physicians and not a few surgeons have in the past turned their diseases to commodity, for, as Falstaff remarks, a good wit will make use of anything: but this, so far as we know, is the first occasion on which a medical sufferer from acromegaly has done so. It is a remarkable fact that in all our text-books and medical works generally, unless for exceptions alluded to, the writers, though manifesting their individuality in many different ways, show a wonderful unanimity in that they all treat disease as an impersonal affair that attacks patients—a something that they have never experienced, and never expect to experience, at first hand. And we are heartily thankful that such is the case, for, were our literature to consist of nothing but plaints from individual medical sufferers, it would make sorry reading indeed. That a sane mind can only exist in a healthy body is unquestionable, and there is nothing so exasperating to the sick man as the superior airs that the healthy assume—and rightly—towards those who are not well. The invalid feels that he is always at a disadvantage, and, no matter how firmly he keeps himself in hand, rarely can write a book about his illnesses that does not make both his friends, and himself in his better moments, blush. Nevertheless, it is good for doctors to read once in a while a memoir like Dr. Mark's, since it puts them in possession of what they are too apt to ignore, if indeed they be able to grasp it at all—the intelligent patient's point of view. Dr. Mark must have had a rare pleasure in thus pouring out his experiences with never a politely bored-looking physician or surgeon to stint or check him, for there is nothing these gentlemen seem to dread so much as intimate garrulity. If the loss were only theirs it would not matter, but, unfortunately, this fear of being talked to is detrimental to the interests of their patients, who feel that this aggressively healthy immortal has taken another unfair advantage of them, when they had already more than sufficiently pocketed their self-respect by complaining at all. Patients are not mostly fools, for illness, like sin, sharpens their wits in an altogether uncanny manner. "Away with your pity, patience, and sympathy, your stones for bread," cry the aggrieved. "What we want is someone to understand us, for we are part and parcel of our disease; and of such a comprehending doctor it can be truly said, 'O! his very looks, his discourse, his behaviour, all he does is physic.'" We welcome this book all the more that the author, though talking about his troubles through close on one hundred and sixty pages, never once sacrifices his dignity nor loses our esteem, despite the fact that his desire is to record from his own personal point of view some of the feelings, the thoughts, and the mode of life of one who is afflicted with acromegaly.

This is a most careful and painstaking report, which, owing to the writer being a devotee to the diary habit, extends over practically his whole life, and gives accurate details of his sufferings during the course of his malady, which commenced about twenty years ago. To most doctors acromegaly is merely a congeries of physical signs, and to many it will come as a surprise that symptoms are so very individual and clamant. Thus, the author, while describing in detail all the physical changes encountered in his own case, lays very special emphasis on what he calls *a triad of symptoms*—faceache, headache, and the acromegalic state. This is the most interesting and educative part of the book, since here we have what cannot be got elsewhere—an account of acromegaly from within, and by one, moreover, who, being trained to scientific observation, does not need to have his statements discounted. Instructive, too, are the more or less intimate chapters on nasal, dental, auditory, cardiac, and ocular troubles, the frequent changes in refraction being carefully noted over a period of eighteen years.

There are quite a number of photographs of the author at different ages, and several good skiagrams, notably one showing his enlarged sella turcica.

The book concludes with a reverie, induced by the contemplation of a stone figure of the thirteenth century carved on Reims cathedral, representing a typical acromegalic woman. A photograph of this statue appropriately finds a place here, and the memoir finishes on a key-note nowise indicative of poignant despondency or gloom.

Dr. Mark writes with a charming style, and adorns his thoughts with a wealth of literary allusion that never seems out of place. You should read him.

The Tobacco Habit, its History and Pathology: A Study in Birth-Rates, Smokers Compared with Non-Smokers. By HERBERT H. TIDSWELL, M.R.C.S. Eng., L.R.C.P. Lond. London: J. & A. Churchill. 1912.

IN addition to the commonly recognised consequences that follow the abuse of tobacco, Dr. Tidswell describes effects that startle by their novelty. It did not occur to us to take Balzac seriously when he told in *Le Peau de Chagrin* of young men smoking themselves into convulsions. But it would appear that we have been doing this famous fictionist less than justice, for Dr. Tidswell seems to have encountered in his practice not only convulsions, but also "acute homicidal mania, delirium tremens, and chronic insanity," which could be attributed to nothing other than excessive devotion to "My Lady Nicotine." Bad as this is, however, there is worse to follow! According to this writer, smokers suffer much from spermatorrhœa, impotence, and sterility; while the wives of these tobacco lords develop a nicotian endometritis, and are the victims of abortion, pelvic cellulitis, labour complications, mammary abscess, and inability to suckle their children, more frequently than their sisters who are married to non-smokers. It is also stated that infantile mortality is unduly high in the families of tobacco users; and the Indian weed is held to be responsible for the excessive female population. It is further declared that "tobacco smoking is destroying the life, both moral and physical, of the nation."

Though truth is to be found in strange places, and in many a queer disguise, it is little to be wondered at if we fail to recognise it in statistics, which prove that, if the habitually excessive smoker be but a drunkard as well, all the bad effects attributed to tobacco disappear. The author of these statistics is himself not a little startled by the marvellous results obtained, for he remarks that this particular table is not based on a sufficient number of cases, and then naively adds, "it is possible that the alcohol used by these men helped to eliminate the nicotine and other products from their bodies, and was an antidote."

A Dictionary of Medical Diagnosis: A Treatise on the Signs and Symptoms observed in Diseased Conditions, for the use of Medical Practitioners and Students. By HENRY LAWRENCE M'KISACK, M.D., M.R.C.P. Lond. Second Edition. London: Baillière, Tindall & Cox. 1912.

DESPITE our prejudice against the alphabetical arrangement as followed in Dr. M'Kisack's book, and our decided preference for the anatomical or nosological grouping, we discover, on investigation, that this is a most satisfactory work for consultation and use, the cross-references, though occasionally leading to some overlapping, providing ready access to the great wealth of accurate information herein contained.

There will be found in this *Dictionary* a concise and sufficiently explicit description of the signs and symptoms commonly met with in medical affections; and, where it has seemed advisable, the author has referred to the physiology and pathology involved, indicating at the same time the diseases in which the symptom or sign might be expected to occur.

This work is a true complement to the systematic treatise; and, in addition to providing the student with a sound clinical manual, will be to the doctor "worrying" out an obscure or complicated case a real guide to the further study required for its elucidation.

The book is copiously illustrated with well chosen diagrams and exceedingly successful photographs. We cordially recommend it.

The New Physiology in Surgical and General Practice. By A. Rendle Short, M.D., B.S., B.Sc. Lond., F.R.C.S. Eng. Bristol: John Wright & Sons, Limited. 1911.

This book is intended for the general practitioner, the consulting surgeon, and candidates for the higher examinations in physiology. Dr. A. Rendle Short has sifted out from the new physiology that which is likely to be of value in the actual diagnosis and treatment of patients, and has produced a most interesting and instructive work, devoid of technicalities, which "limits itself to surgical problems, and to the common, everyday aspects of disease that confront us all—physicians, surgeons, and general practitioners alike."

The subjects discussed are the thyroid and parathyroid glands; the pituitary gland; studies in digestion and absorption (incorporating much of the work of Pawlow and his pupils); the applied physiology of blood-pressure; the hæmorrhagic diathesis; the physiology of uric acid and other urinary deposits; acidosis, acetonæmia and diabetes; immediate and remote poisoning by chloroform; nerve injuries; the surgical physiology of the spinal cord; cerebral localisation; and the action of cutaneous anæsthetics.

Of very special service are the author's own contributions showing that many of our cutaneous anæsthetics are in reality counter-irritants, the part that acidosis plays in delayed chloroform poisoning, and the uselessness of so-called nutrient enemata; the urine analyses by Dr. E. Thomas, in cases of gastric ulcer medically treated, proving most conclusively that rectal feeding is practically synonymous with starvation, though perhaps it need not continue to be so. We heartily recommend this newer teaching to all who are in search of scientific rehabilitation.

A Manual of Physics for Medical Students. By HUGH C. H. CANDY, B.A., B.Sc.Lond., F.I.C. With a Coloured Frontispiece and 262 Figures in the Text. London: Cassell & Co., Limited. 1911.

THIS is an expansion of the *Elements of Physics for Medical Students*, by the late F. J. M. Page. It is intended to be a companion volume to the *Manual of Chemistry*, issued by the same publishers, and we believe that the medical student will find here all the theoretical and practical information he needs for his examination in physics. Mr. Candy's work is designed primarily to meet the requirements of the Royal Colleges of Physicians and Surgeons, but we have no hesitation in saying that it is all-sufficient for candidates for the University degrees, or the triple qualification of Scotland. Though concise, it is everywhere lucid and eminently readable. Throughout the book there is a great wealth of figures, which are intelligently chosen, and invariably have the merit of being illustrative of the text. We confidently recommend it.

Health to Date. By W. T. FERNIE, M.D. Bristol: John Wright & Sons. 1911.

IN view of the present-day attitude with regard to foods considered not merely as nutriment but as relating to the preservation of health and warding off of disease, the author's opinions and extracts (the latter are numerous) will be found interesting reading.

Beginning with a discussion of the value of the use of soured milk, Dr. Fernie quotes the unhesitating opinion of Dr. Distaso (Professor Metchnikoff's assistant) that "every child should have its large intestine and its appendix surgically removed when two or three years old." It is not clear, however, whether Dr. Fernie entirely agrees with this drastic procedure; while his reference to plasmon in this connection is not altogether happy. Few, however, will dispute the statement that butter-milk is a valuable dietary adjunct, and in Scotland we can flatter ourselves that this fact has long been well known and acted upon, except, perhaps, in the larger centres of population.

Whether it is either possible or desirable to prevent intestinal putrefaction must be held to be a moot point even yet, although there is not the slightest doubt that undue retention of the *residua* of digestion in the colon is responsible for many pathological conditions. In the same way there is no doubt at all that animal foods are employed in large excess among almost every section of the population.

On p. 28 the author groups sugar, starch, and butter as "hydrocarbons;" the distinction between hydrocarbons and carbohydrates is an important one, however. Nor is it correct to say, on the same page, that for all practical purposes nitrogen and bodily energy are convertible terms.

"The worst fad any modern dietist can urge is monotony." This, from Hutchinson in his *Health and Common Sense*, though apparently a mere platitude, is a *proviso* which seems to be little thought of by the ever-increasing multitude of food faddists.

The advantages of cheese as a food-stuff are no doubt correct in the abstract, and reasonable from the results of chemical analysis; but the old adage which the author quotes, "Cheese is a churlish elf; digests everything but itself," emphasises the fact that diet can never be regulated by consideration of chemical and physiological conditions alone.

The experiments of Mr. Horace Fletcher upon himself, given in some detail by Dr. Fernie, give point to Mr. Gladstone's famous dictum upon mastication. Unfortunately, most adults have acquired the habit of so distending the stomach by full meals of many courses that the viscus refuses to be satisfied with anything short of the "full stomach" to which it has become accustomed. No! (*pace* the "learned Fletcher") we can *not* delude our present-day stomachs so that we are able to dine sumptuously on a menu-card and a water-biscuit.

The effect of the mental state on digestion is well known; but how is it possible for us in this world of worry and trouble to follow Mr. Fletcher's sage advice, "Never eat when you are mad or sad; only when you are glad!" Any attempt to follow this advice would in very many cases, it is to be feared, lead to the other evil of irregularity of meals! The "lightning lunch" is too well established now to be revoked by any number of volumes of scientific argument against it.

The extracts from *The Antiseptic Baby* (p. 52) are exquisite;

indeed, throughout the whole book these extracts in rhyme serve most admirably to "point a moral and adorn the tale."

The reduction of food intake, after forty or fifty years of age, is properly dwelt upon by Dr. Fernie; but, alas, it is just at this period that the pleasures of the table appeal most to the man (or woman), who now finds that this is one of the few grosser pleasures left to cheer life's deadly monotony.

Various articles of diet are given due notice by the author, among these the most important are fish, poultry and game, eggs, and vegetarian items. A number of pages are devoted to a consideration of the question of meat *versus* vegetarian diet, and the points succinctly stated. The relative digestibility of the various meat foods receives careful examination. This point is of much greater importance than is generally realised.

Salt and its effect on the body receive special prominence, and there is an account of recent treatment by means of sea-water injections.

Naturally the bread question is given considerable scope. The real inauguration of so-called "standard bread," by Sir Oswald Mosley, serves to introduce the arguments for white and brown bread respectively: but it cannot be said that anything new, or even striking, is here evolved. As shown by the author, the addition of salt with phosphates to ordinary white bread makes the latter complete as a food-stuff of its kind.

In speaking of porridge, the author remarks that in Cumberland and Westmorland the noun is always plural. This is not peculiar to these counties, because in many parts at least of Scotland, this same plural use of the word is the rule.

Dealing with alcohol, the author is temperate in his language and advice. He points out how difficult it is to obtain any drink with keeping qualities which is free from alcohol. Further, he emphasises the fact that good beer is in many respects both food and drink.

Dr. Fernie is not strong in statistical methods. On p. 226 the statement is made that "sixty-five abstainers die for every hundred moderate drinkers, all carefully selected lives." This statement requires amplification to form sense. It seems a pity, in the interests of temperance, to point out that all must die, abstainers and moderate drinkers alike.

Beverages like tea, coffee, and cocoa, are given a short notice; tobacco is only incidentally mentioned.

Among other subjects treated of, in greater or less detail, are hydrotherapy, cancer drugs, radium, *x*-rays, organotherapy, homoeopathy, massage, Weir Mitchell treatment, electricity, open-air treatment, clothing, sleep, hypnotism, and psychotherapeutics generally.

The book is one of the most readable on the subject which has been as yet put before the public, and herein lies one of its chief claims to success.

One slight defect, which might be remedied in future editions, is the lack of division of the contents by means of chapters or the use of different type for headings; one slips from milk to appendicitis, and from that again to fish without a break, as it were, and the reader's mental faculties are thus unduly taxed on occasion.

There are no illustrations, but this is made up to a large extent by the copious quotations and anecdotes. There is a capital table of contents and a full index.

Guy's Hospital Reports. Volume LXV. Edited by F. J. STEWARD, M.S., and HERBERT FRENCH, M.D. London: J. & A. Churchill. 1911.

THE present volume of *Guy's Hospital Reports* contains a number of papers of much interest. It opens with a discussion, by Dr. Hale White, of the outlook of sufferers from exopthalmic goitre. This paper, reprinted from the *Quarterly Journal of Medicine*, may be profitably read in connection with Mr. L. Bromley's paper on the operative treatment of the same disease. Dr. Hale White's results can quite well bear comparison with those of operation, and in mild cases the chance of recovery under medical treatment is good, while the utmost that Mr. Bromley can say for operation is that recovery may possibly be quicker, and that the chance of recovery is as great as under medical treatment. But when death occurs as the result of operation it is immediate, "and this," as he blandly observes, "from the point of view of the patient is very serious." In a series of neurological studies by different writers, edited by Dr. A. F. Hertz, the importance of the tendo Achillis jerk is emphasised. It is lost before the knee-jerk in tabes, and is also lost in peripheral neuritis and neuritic sciatica. As alcoholic neuritis is often latent, the loss of this jerk is a valuable sign of the condition. Cases illustrating the use of salvarsan in syphilis of the central nervous system are given, and the drug is stated to be more beneficial in relieving pain than in curing paralysis. Mr. Barber contributes an interesting analysis of the etiology and symptoms in seventeen cases of tabes dorsalis. A paper by Mr. Price Jones deals with the "aspect of leukæmia from the bone-marrow." He describes the genesis of blood-cells from marrow-cells, and the cells which are found in leukæmia, and concludes that in leukæmia the storage of white cells in the tissues and their accumulation in the blood interferes with their normal development in the bone-marrow, and leads to a multiplication of generations of primitive cell forms. The paper is accompanied by an excellent plate of the varieties of bone-marrow cells. Mr. Mollison writes on two cases of herpes auris accompanied by facial paralysis, and Dr. F. W. Morton Palmer on a case of inflammation of the geniculate ganglion presenting the same symptom. The herpes due to this condition affects "the lower part of the concha, the inner aspect of the tragus, the floor and the lower part of the anterior and posterior walls of the meatus." Dr. A. S. Morton Palmer contributes observations on the deep and surface temperatures of man in health and disease. He points out the lack of correspondence between rectal and oral temperatures, and mentions a case of rheumatic hyperpyrexia in which the oral temperature was 99·8°, while the rectal stood at 108°. He finds that in heart failure the internal temperature is not low, as is generally supposed from oral readings, and that in rigors the disproportion between internal and skin temperatures is much better shown by rectal than by oral observations. The internal temperature falls under anæsthetics, and in paralysis the surface temperature differs upon the two sides, but the paralysed side is not constantly warmer. Dr. Bellingham Smith and Mr. W. Wilson are represented by an elaborate experimental research upon the administration of radium with reference to its possible application to cancer, from which they conclude that its internal administration by the mouth or by injection, although safe in small doses, does not show any tendency to check the growth, and that external application in small doses probably "does nothing further than inhibit the rate of growth and delay the natural course of ulceration." Among other papers, Mr. Alexander Sandison has a careful review of the cases of rheumatic fever occurring in Guy's Hospital during the last decade. He finds that the most favourable factors for the production of the disease are sun and warmth, aided by east winds, while excessive humidity maintains it in existence. The volume ends with an able article by Mr. H. L. Attwater on pontine hæmorrhages, with which is coupled a valuable analysis of sixty-seven cases in the hospital records of the last thirty-six years. Space forbids the mention of other contributions, but it will be seen that in this issue of the *Reports* there is a wealth of interesting clinical and scientific material which makes them the model of what hospital reports should be.

Vaccination Pros and Cons. By the Editor of *The Vaccination Inquirer.* Published by the National Anti-Vaccination League, Carrick House, London. 1912.

This pamphlet is supposed to be a reply to the article on "Vaccination" in the eleventh edition of the *Encyclopædia Britannica*, and perhaps this claim is in itself sufficient to show what little real scientific value it possesses. Surely the time is now long past when the efficacy of vaccination can be seriously impugned; and the fact that a certain number of educated people are pronounced anti-vaccinationists is absolutely without weight as an argument. The quotations on the inside of the front cover are interesting, but they only prove that such a thing as absolute unanimity in this as in every question is not to be looked for.

In the first part of the pamphlet quotations are given from the eighth, ninth, and tenth editions of the *Encyclopædia Britannica* on this subject, but the "reply" is given in pages 6 to 30 inclusive. In not a single page is proof brought forward that Dr. Copeman's article on "Vaccination" is inaccurate, or even misleading. The comments on Dr. Copeman's statements are without weight, but they can all be read by the members of the profession without the slightest danger of disturbing their present convictions. Viewed in this light the pamphlet will be found of real service to the cause of vaccination—if, indeed, it can be imagined that vaccination requires any such extraneous recommendation!

Of course, until the specific organism can be isolated and cultured the last link of scientific proof is absent; but, after all, this is an end link of the chain, and, except in the mechanical calculation of length, the efficiency of the chain is in no way interfered with.

The inaccurate, intemperate, and unscientific language of the anti-vaccinator is unblushingly set out in almost every page.

A fair sample may be taken from page 11—"Small-pox is a cleansing process; the secretions of the pustules are composed of the very quintessence of pathological vileness; they reek with any disease (such as syphilis, scrofula, tuberculosis, cancer, &c.) from which the patient may be suffering."

The so-called "conscience clause" in the 1898 Act is regarded as a triumph for the anti-vaccinationists. In fact it will prove to be a triumph for the vaccinationists when even the incidence of the first real epidemic of small-pox visits this country. Unfortunately, when an epidemic actually threatens there will be few "conscientious objectors" among the adult population of these islands.

As an example of the abuse of statistics nothing could be better than the figures on pages 14-16. Figures and photographs are popularly supposed to be incapable of lying—a delusion as great as that under which the anti-vaccinationist himself labours.

The statement is made (on page 18) that the greater immunity from small-pox enjoyed by the vaccinated doctors and nurses "seems to be so only because the cases to the contrary are not always reported in the press, or because no one has taken the trouble to compile a complete list of the cases that have been so reported." Why does the author of this "reply" not take this trouble himself, and put the vaccinationists to rout once and for all?

The pamphlet is an unintentional support of vaccination, and, even if it carries little weight, it assists in a small way the recognition of the fact that the principles of vaccination may be profitably extended to the prophylaxis of other infectious diseases in analogous manner.

An Index of Treatment by Various Writers. Edited by Robert Hutchison, M.D., F.R.C.P., and H. Stansfield Collier, F.R.C.S. Sixth edition. Revised and enlarged. Bristol: John Wright & Sons, Limited. 1911.

The fact that this work has reached its sixth edition in rather less than four years after the publication of the first is sufficient evidence of its popularity, and both the publishers and the editors are to be congratulated on the achievement. Diagnosis is frequently difficult, but in many cases where this has been accomplished, and there is no doubt as to the nature of the ailment, the practitioner has a prolonged and wearying struggle before him, which may severely try his patience as well as that of the sufferer, and he may in a volume like the present get many a valuable hint on the subject of treatment. With over a thousand closely printed pages of text this book may fairly be described as comprehensive, and it is worthy of a place in the library of every practitioner. As the editors and publishers appear to welcome suggestions, we would venture to recommend a trial of an autogenous vaccine in the treatment of bronchiectasis. Moreover, in the treatment of mucous colitis the most brilliant results may occasionally be obtained by means of a diet designed to cure constipation, namely, by one in which the food is of such a kind as to leave a considerable residue of indigestible matter. In accordance with the theory that the disease is a secretory neurosis of the intestine, this indigestible residue sweeps the abundant mucus onwards before it has time to become inspissated and adherent to the wall of the bowel. We can strongly recommend the work.

Applied Anatomy of the Lungs and Pleural Membranes, with Special Reference to the Apical Region of the Chest. By J. Stuart Dickey, M.D. Belfast: Alexander Mayne & Boyd. 1911.

This volume forms an extension of the thesis which gained for Dr. Dickey a gold medal from the Queen's University of Belfast. We look to it, therefore, with exceptional expectations, nor are these expectations disappointed. Alike in his drawings of dissections, in his reproductions of vertical and horizontal sections through the chest at different levels, both in healthy and diseased conditions, and in the meticulous accuracy of his descriptions of the results of his careful work, Dr. Dickey has much to tell us that must interest both the anatomist and the clinician. To the latter in particular, whatever has a bearing upon the anatomy of the apex, and, therefore, upon the problems of pulmonary tuberculosis, must specially appeal, and we find in the volume many points that are worthy of attention. Of these only a few can be selected for notice. The height above the clavicle of the upper limit of the apex has been very variously stated, and it is here shown that the differences depend upon the region of the neck which has been percussed; in the supra-clavicular fossa external to the sternomastoid three fingerbreadths (2 inches) of resonance should be obtained in the normal chest. It is worthy of note that slight signs at one apex in phthisis ma possibly be conducted across the vertebræ from the more seriously affected lung on the other side. The liability of the apex to suffer has been attributed to a stenosis of the thoracic inlet, which is by some supposed to be common in the tuberculous. Dr. Dickey's careful measurements show that there is no necessary or invariable association between such a stenosis and phthisis, and that in many tuberculous cases the inlet is as large as in the healthy. His observations agree with those of Woods Hutchinson that the chest is not necessarily flat in phthisis, and in a case of the disease, which was fatal at the age of 20, he found the antero-posterior diameter more nearly equal to the transverse than is the case in health. In discussing the anatomy of the bronchi, he makes the interesting suggestion that Curschmann's spirals, so notable a feature of the asthmatic sputum, may be casts of the bronchial mucous glands. The volume concludes with a discussion of the modes of entry of the tubercle bacillus into the body, the routes by which it reaches the lungs, and the reasons for the selection of the apex. From this it appears that there is no anatomical ground for the statement that the circulation in the apex is defective, that the alleged stenosis of the thoracic inlet need not, in fact, exist, and that lymphatic stasis in the apex, also an alleged cause, can hardly come about, owing to the constant variations of intra-thoracic pressure. Dr. Dickey finds the cause in "the proximity of infected lower deep cervical glands, which lead to infection of the lung apex . . . by direct extension."

Although the strictly anatomical side of Dr. Dickey's work has received but scant notice, enough has been said to show that there are many features of his volume which will repay the thoughtful attention of the clinician.

Lateral Curvature of the Spine and Flat-Foot, and their Treatment by Exercises. By J. S. KELLETT SMITH, F.R.C.S. Bristol: John Wright & Sons, Limited. 1911.

A SHORT manual on this method of treatment is much wanted, and this small book of Mr. Kellett Smith admirably fulfils its object. Not too much space is taken up by elaborate descriptions of pathological changes of the spinal column, as the treatment is confined chiefly to the earlier stages, namely, when the deformity is completely reducible, or when it can be relieved to a fair extent. The exercises used are fully described—both the creeping movements devised by Klapp and the corresponding movements in the upright position. The section on flat-foot is also of value. Notwithstanding the author's objections to sole pads, he recommends a boot which seems to fulfil exactly the same functions as a sole plate, and, like these, proves equally efficacious in relieving some of the tension and easing the pain. On the whole, it is a useful little work.

Dolls: Dead and Alive. By OTTO ERNST. Translated by A. C. CATON. London: A. C. Caton. 1911.

THIS little booklet, of 40 pages or thereby, forms No. 2 of the "mother books," and its limited scope is almost sufficiently indicated by its title.

In his "foreword" the translator terms Otto Ernst "the apostle of family life." The little *causerie* gives in simple and beautiful style the author's views on dolls and little girls, and the pen-picture is drawn from his own family life. The make-believe of imaginative girls with their dolls is delicately dwelt upon. In this connection the closing sentence on the last page is well-nigh perfect—"Round the figure of each little girl who bends lovingly over a doll is the radiant aureole of her future vocation."

The Bacillus of Long Life. By LOUDON M. DOUGLAS, F.R.S.E. With many Illustrations. London: T. C. & E. C. Jack. 1911.

AFTER a historical chapter, in which the use of soured milk is shown to be of great antiquity, the author proceeds to describe the manufacture and the properties of the fermented milks of the present day—*koumiss*, *kefir*, *leben*, *matzoon*, and *dabhi*. Then follow chapters dealing with the chemistry of milk, and the handling of milk in modern dairy practice. The bacteriology of fermented milk is next fully discussed, and this section is much enhanced by very numerous photo-micrographs of the different lactic acid forming micro-organisms. The preparation of soured milk in the house and, on a larger scale, in the dairy is carefully set forth. The book concludes with the advocacy of the use of fermented milk in health and disease. Its wonderful effect in the prolongation of human existence is frequently insisted on throughout the narrative, and to further emphasise this point we have numerous illustrations showing very old people who have made some form of soured milk their principal food all their lives. This work contains all that is at present known of the chemistry and bacteriology of the fermented milks.

The Feast of Herbs (Vegetarian Cookery). London: H. J. Glaisher.

THIS is a small paper-bound book containing a preface, a puff, and almost 120 receipts. The preface contains many statements of so-called therapeutic actions attributed to vegetables or fruits. This is followed by a puff of a couple of proprietary foodstuffs. On looking through the formulæ for dishes one finds that eggs, butter and cream, bulk quite largely in their composition, and the cost of many of the dishes is quite prohibitive to an ordinary middle-class family in this city, though, perhaps, the cost might be smaller in London. The book is not one that will appeal to ordinary persons, and is not likely to make converts to vegetarianism.

The Treatment of Fractures by Mobilisation and Massage. By JAMES B. MENNELL, M.D. With an introduction by DR. J. LUCAS-CHAMPIONNIERE. London: MacMillan & Co., Limited. 1911.

IN this volume we have a very full account of the treatment applied by the author to fractures. Dr. Mennell is a devoted adherent of M. Lucas-Championnière, and in the course of the present work he frequently quotes from Championnière's writings, while the latter furnishes a long introduction to the volume.

The matter is arranged in two parts, which respectively deal with general treatment and with individual fractures. The subject is one in which new ground is broken, and which is therefore likely to stimulate the interest of the reader. We have no hesitation in saying that the matter is distinctly good; but it seems to us that the author has allowed himself to indulge in prolixity, and this to a considerable degree. The result is that we fear some readers may lay down the volume before proceeding far. We can assure them that it will repay them to persevere, and at the same time we should advise the author to condense the matter somewhat for a new edition, if such should be called for.

There is no doubt that surgeons are coming more and more to recognise the value of massage and movements in the treatment of fractures, and the present work is likely to have a large circle of readers.

The publishers have turned out a handsome volume, in which both print and illustrations are excellent.

Vicious Circles in Disease. By JAMIESON B. HURRY, M.A., M.D.Camb. London: J. & A. Churchill. 1911.

VICIOUS circles have not before been systematically described. They are of great importance, and a study of them will lead to greater accuracy in diagnosis, prognosis, and treatment. They are classified as organic, mechanical, infective, neurotic, chemical, as due to imperfect repair, and as artificial circles, examples of each being given. Circles associated with the nervous, cardio-vascular, respiratory, digestive, urinary, and sexual systems, with the eyes and eyelids, and artificial circles are then detailed. There is a chapter on the genesis and on the breaking of the circle. Many are diagrammatically represented, and there are frequent quotations from well-known authorities. The book is indexed, and is very handsomely printed and bound.

Official Year-Book of the Scientific and Learned Societies of Great Britain and Ireland. London: Charles Griffin & Co. 1911.

THE twenty-eighth annual issue of this work demonstrates its value as a general record of scientific work published by nearly all the scientific societies of importance throughout the kingdom. It is divided into fourteen sections, the more important of which are on science generally, chemistry and photography, biology (including microscopy and anthropology), economic science and statistics, psychology, and medicine.

A list of the officials, dates of meetings, membership subscriptions, and publications for the year, are given wherever possible, although the ominous note in brackets "no return" appears with disquieting frequency. Of course, in many cases a Society's work does not demand publications in the ordinary sense of the term.

The list of societies is not quite complete, but it will not diappoint in most cases when reference is made to its pages. The book will be found most useful in the doctor's reference library. There is a subsidiary list of medical societies at the end of the book, but these are not included in the index.

A Manual of Fevers. By CLAUDE BUCHANAN KERR, M.D. Edin., F.R.C.P.Edin. London: Henry Frowde and Hodder & Stoughton. 1911.

THIS volume has been perused by us with the greatest pleasure. As the author states, its purpose is to supply the information necessary to the student when he is taking out his statutory course of fevers at an isolation hospital.

Without weakening this primary purpose, the scope of the volume is larger, and many useful clinical points are recorded which cannot fail to be of the greatest assistance to the general practitioner.

After an introductory chapter dealing with infection, toxæmia, types of pyrexia, management of fevers, and prophylaxis, the various specific fevers, including cerebro-spinal meningitis, are treated in detail. The author is to be congratulated on the practical nature of his work. It is the expression of his own wide experience.

Bone-Setting and the Treatment of Painful Joints. By FRANK ROMER, M.R.C.S., L.R.C.P., and L. ELIOT CREASY, M.R.C.S., L.R.C.P. London: James Nisbet & Co., Limited. 1911.

THIS *brochure* is the very thing to dispel the belief that the bone-setter is born and not made, and should prove exceedingly helpful to medical men, who have to deal with joints whose utility has been impaired by adhesions. Concise and lucid directions are given for the manipulations appropriate and necessary for the treatment of each articulation, and the book carries conviction that the authors are prescribing what they have frequently practised. "Unless contra-indicated, when adhesions are to be broken down," it is recommended that "an anæsthetic must always be given, not so much for the avoidance of pain as to ensure complete relaxation of the muscles," and thus evade running the risk of severely spraining or rupturing the same. After-treatment, also, receives careful consideration.

Outlines of Biology. By P. CHALMERS MITCHELL, LL.D., F.R.S., F.Z.S., F.L.S. Revised and Supplemented by GEO. P. MUDGE, A.R.C.Sc. Lond., F.Z.S. Third Edition, revised. London: Methuen & Co., Limited. 1911.

"THIS book is primarily written to meet the needs of students preparing for the examinations of the Conjoint Board of the Royal Colleges of Physicians and Surgeons of England. But it embraces to a great extent the syllabuses of other examining bodies, and students reading for the L.L.A., for Durham University, for the Conjoint Colleges of Scotland, and for the first medical examination of London University will find it sufficient for most of the ground they need to cover. The book has been brought up to date, and the additional types recently introduced into the syllabus of the Conjoint Colleges are now included. New chapters on histology, on the structure of stem, root, and leaf, and many illustrations in half-tone have been added."

Mr. Mudge is still actively engaged in teaching medical students, and thoroughly appreciates both the broad principles which they require and the limitations which must be set to their overful curriculum. He has a genius for clear and interesting exposition, and as a model of lucidity we might specially mention the chapter on embryology, a subject which has too often in the past proved a *pons asinorum* to many. The work is generously and beautifully illustrated, there being 74 figures and 11 plates. Not only is this a text-book containing the requisite amount of zoology, botany, embryology, and histology for certain medical examinations, but it will be found to make a charming introduction to any or all of these subjects. We cordially recommend it.

ABSTRACTS FROM CURRENT MEDICAL LITERATURE.

EDITED BY ROY F. YOUNG, M.B., B.C.

MEDICINE.

Infarction of the Myocardium Rupture of the Heart - Sudden Death with Hæmopericardium. By Dr. Badolle (*Lyon Médical*, June, 1912). The writer gives the following report of a case of the above. The patient was a man, aged 76 years, whose previous history was unknown. He became suddenly ill during the night. His face became very cyanosed; as his neighbours described it, "black as ink." When I saw him he was no longer cyanosed, but extremely pale with dilated pupils. He took now and again deep inspirations, the pulse was very irregular, and the heart sounds inaudible. He died in three or four minutes. The day before his death he complained of slight præcordial pain and a little oppression, but not enough to seek medical advice.

At the autopsy the pericardium was distended by a blood-stained effusion, and there was also an enormous blood clot. The inner surface of the pericardium was quite smooth and without a trace of inflammation. On examination of the heart, there was found on the anterior and external aspect of the left ventricle a zone of yellow dislocation, with pale spots and marbled with white striae, and at the edge red spots covered with small adherent clots. This part was the infarction. Two centimetres below this part there was a small linear orifice along which a stylet could be passed into the ventricle. This did not show any clots. The walls were thickened. There was nothing of note in the other organs, and no trace of recent or old infarctions elsewhere.

The case then was one of myocardial infarction, with rupture causing sudden death.—D. Ross Kilpatrick.

Internal Secretions, with Special Reference to the Islets of Langerhans of the Pancreas. By G. B. Schwachten, M.D. (*Illinois Medical Journal*, February, 1912).—After having reviewed historically the discovery of internal secretions first in the ductless glands, then in those with ducts, the writer gives a short *résumé* of the later work on what he calls the adrenal system, which includes, besides the adrenal glands, the thyroid apparatus and the pituitary body.

The adrenals.—Removal of the adrenal bodies is rapidly followed by death, the symptoms preceding death resembling those occurring in Addison's disease.

Injection of an aqueous solution of the medullary portion of the adrenal gland produces in the living animal slowing of the cardiac action and marked rise in the blood pressure. The extract causes cardiac and vascular contracture by stimulating directly the muscular elements, and not by exciting the vaso-motor centre as was formerly thought.

The slowing of the cardiac action is due to the resistance which the increased blood pressure, caused by the extract, offers to the cardiac contraction, and not to its action on any inhibitory mechanism. A second permissible function of the adrenals is that they produce an antitoxic substance whose function is to neutralise or destroy certain (as yet unknown) poisons from end products of body metabolism. Removal of the adrenals causes death by accumulation of toxic substances.

Thirdly, the internal secretions of the adrenals is a constituent of the hæmoglobin which carries the oxygen of the air to the tissues, and hence may prove an important factor in respiration. Adrenalised plasma has a great affinity for oxygen. Dyspnœa results from extirpation of the adrenals.

The thyroid apparatus.—1. Neutralises or destroys toxic substances formed during body metabolism. Removal of the thyroids results in death from an accumulation of toxic end products in the blood.

2. It elaborates a secretion characterised by its iodine contents which regulates an important, if not essential, action on nutrition and metabolism.

3. Stimulates adrenal activity.

4. Cyon gives a view that it, by its vascularity, acts as a vascular shunt, protecting mechanically the circulation in the brain.

The pituitary body.—The effects of injection of solutions of pituitary body resemble very closely those of the adrenals. Removal of this gland results in death accompanied with symptoms resembling those of complete thyroidectomy. The pituitary gland undergoes hypertrophy after thyroidectomy.

The evidence in reference to the adrenal system warrants the following conclusions :—

1. The thyroid apparatus (including thyroids and parathyroids), the pituitary body, and the adrenals are functionally interdependent, and constitute the so-called adrenal system.

2. The function of the thyroid apparatus is to supply a secretion to the blood which enables the latter, while circulating through the pituitary body to excite its centre or test-organ.

3. The function of the test-organ of the pituitary body is to react sufficiently under the thyroid secretion to stimulate the adrenals and thus sustain their secretory function and efficiency.

4. The function of the adrenal is to sustain oxygenation, and therefore general metabolism by means of its oxygen-ladened secretion.

5. If any of those organs becomes inadequate or excessive, general metabolism is influenced accordingly. Hence,

6. The main function of the adrenal system is (*a*) to sustain general metabolism, (*b*) to protect the organism when toxic waste products accumulate in the blood by augmenting the proportion of adrenal secretion to the blood, and therefore the antitoxic activity of the latter.

7. The adrenal system, therefore, is the body's autoprotective and autoimmunising mechanism.

The pancreas.—Extirpation of the entire pancreas causes glycosuria, even with the exclusion of carbohydrates from the diet. If the pancreas be completely removed, the glycosuria may be serious, slight, or transient, depending on the amount of pancreas left. A residue of one-quarter to one-fifth of the gland is sufficient to prevent the appearance of sugar in the urine (Mehring and Minkowski). Glycosuria after complete removal of the pancreas may be prevented, partially or completely, by grafting a portion of the pancreas elsewhere in the abdominal cavity or even under the skin. Ligature of the pancreatic ducts does not cause glycosuria. Hence, it is believed that it is the internal secretion of the pancreas that plays an essential part in carbohydrate metabolism. Further, it is thought that it is the islets of Langerhans that are concerned in this important function, and not the pancreatic tissue proper. In man these islands are scattered through the pancreas, particularly at the splenic end. They have a definite histological structure, and are well supplied with blood, and resemble somewhat the glomerulus of the kidney. Ligation of the pancreatic duct causes atrophy of the pancreatic cells, and not of the cells of those islands, hence glycosuria does not occur as it does when the whole organ is removed (Ssobolew). A number of recent observers have found that in diabetes mellitus the islands are markedly affected, showing signs of hyaline degeneration, atrophic changes, and in severe cases may be absent altogether. It has been suggested that the secretion contains an enzyme which is necessary for the hydrolysis or oxidation of the sugar of the body, and in the absence of this enzyme sugar accumulates and is drained off through the kidneys.

They believe the pancreatic internal secretion regulates in some way the output of sugar from the liver. In the absence of this secretion the liver gives off its glycogen too rapidly. The sugar contents of the blood is thereby increased above the normal, causing a hyperglycenuria, and the excess passes out in the urine. Diabetes mellitus is due to excessive irritability of the test-organs, and to the presence in the blood of waste products, stimulating drugs, poisons, toxins, &c., which cause this organ to react inordinately owing to its oversensitive condition. By thus provoking an excessive production of adrenal secretion, these agents excite hyperoxygenation of all organs, including the pancreas. The amylolitic ferment supplied by the islands of Langerhans, reaching the muscles and liver, converts the glycogen into sugar; a larger quantity than usual is produced and is excreted by the kidneys. Hence an increase of sugar in the urine is proportionate to the degree of hyperactivity of the adrenal system. The internal secretion reaches the liver by the splenic vein. The internal secretion of the spleen, also in the vein, renders it active. Glycosuria is arrested by ligation of mesenteric to splenic veins, showing that the internal secretion reaches the circulation by this means.

The writer then goes on to show that the spleen has an internal secretion that makes active the pancreatic secretion. This splenic secretion is of the nature of a ferment. He then shows that there is a distinct inter-relation between the islands of Langerhans and the liver. The *modus operandi* may take place in two ways. One theory assumes the elaboration of a glycolytic ferment by the islands of Langerhans, which on entering the blood causes the oxidation of the sugar in excess of the normal amount. With an increase of the sugar content of the blood, resulting from hepatic disease, additional responsibility is thrown on the islands. These structures, if healthy, respond to the demands and undergo hypertrophy. If not, then glycosuria is apt to ensue. Another theory is suggested by Hester and Wakeman, who experimented with adrenalin chloride and similar substances producing a glycosuria. It was found that, when weak solutions of adrenalin and potassium cyanide were painted on the surface of the pancreas, glycosuria ensued. In their experiments the hepatic glycogen was more rapidly converted into sugar. It seemed reasonable to suppose that the secretion of the islands of Langerhans exerted an inhibitory action on the liver cells, possibly also in the muscles, preventing them from too rapidly converting the glycogen into sugar, and that adrenalin had an opposite effect, *i.e.*, augmenting glycogen conversion. In the Hester-Wakeman experiments the substances painted on the pancreas may have neutralised the secretion of the islands of Langerhans, and thus destroyed its inhibitory influence.

This theory may be applied to man in that the secretion of the adrenals inhibits the secretion of the islands of Langerhans.

Two theories have arisen concerning the rôle of the liver in causing glycosuria. One supposes a depressed liver glycogenic function, that is, that the liver cells are unable to correct the digestive sugar in glycogen, hence sugar accumulates in the blood in greater quantities than can be made use of by the tissues, and is thrown off by the kidneys. The other theory supposes the inability on the part of the liver cells to properly retain the sugars after they have been formed into glycogen.

Asthenic glycosuria is due to poisons, diseases, trauma, shock, fright, and other causes which depress the functional activity of the adreno-thyroid and sympathetic centres of the pituitary body, and, therefore, of all organs including the pancreas. The secretory function of the pancreas being inhibited, the formation of glycogen is also reduced, and the food carbohydrates which should be utilised in this function are directly converted into sugar in the alimentary canal and absorbed as such. Being unsuited for utilisation by the tissues this sugar is eliminated by the kidneys.

— D. Ross Kilpatrick.

DISEASES OF THE EAR.

A Method of Detecting Fixation of the Stapes. By F. P. Sturm, M.Ch., Leigh, Lancs. (*Journal of Laryngology, Rhinology, and Otology*, June, 1912).—The test is based upon the facts (1) that in otosclerosis paracusis is invariably present, and (2) that in those cases labyrinthine tension cannot be raised by exerting pressure upon the stapes, which is fixed.

Test for paracusis.—Many patients with undoubted otosclerosis deny that they hear better in a noise, but the presence of paracusis may nevertheless be demonstrated in the following manner:—A watch is held at such a distance from the patient's ear that it just ceases to be heard. If, now, a loudly vibrating tuning-fork of low pitch be applied over the mastoid of the same side, the patient at first hears nothing but the note of the fork, but if paracusis is present the tick of the watch becomes audible for a few seconds as the vibrations of the fork diminish in intensity, to disappear again as the fork becomes inaudible.

The author's method of testing the mobility of the stapes is as follows:—The largest Eustachian catheter which can be introduced is passed, and the tympanum is gently inflated to make sure that the catheter is properly engaged. Then a few drops of a 10 per cent solution of cocaine in adrenaline are injected in order to render the tube as free as possible. A valveless rubber bag, half emptied of air, is attached to the catheter, and the mobility of the drum is verified by actual inspection as the bag is alternately compressed and relaxed. A vibrating tuning-fork is then applied to the bone over the tympanic antrum, and the rubber bag allowed to expand to its full extent. If the consequent rarefaction within the tympanum causes (1) the sound to appear less to the patient, it means that the indrawn hammer-bone has driven the foot-plate of a movable stapes into the oval window, and so raised the labyrinthine pressure; (2) if the sound appears louder it means that the malleus is ankylosed or stiffened, and therefore unable to exert any inward pressure upon the stapes, which is consequently drawn out of the fenestra, diminishing the tension of the labyrinth, and resulting in a temporarily increased acuity of hearing; (3) if the sound remains unaffected, or so slightly affected that the change is barely perceptible, it may safely be assumed that there is fixation of the stapes.—Walker Downie.

A Case of True Serous Lepto-meningitis Cured by Operation, with Considerations on this Interesting Otitic Complication. By Professor S. Citelli (*Archives Internationales de Laryngologie, d'Otologie, et de Rhinologie*, January-February, 1912).—There has been a good deal of obscurity about the term serous meningitis, and a study of the history of its application is interesting. It was for long held if a patient who developed symptoms of meningitis in the course of middle-ear suppuration recovered, that meningitis was not a purulent meningitis, but the name serous meningitis was given to it. On the introduction of lumbar puncture, cases of this kind were observed where the cerebro-spinal fluid was under increased pressure, but still clear. These cases proved to be of hopeful prognosis. If, on the other hand, the fluid was turbid, the prognosis was considered to be practically hopeless. And as to purulent meningitis itself, the generally accepted dictum was, "no case of generalised purulent meningitis recovers."

An accumulation of observations has modified these views. Citelli controverts the opinion which gives the name serous meningitis to those cases where the cerebro-spinal fluid is clear. In such a case he declares there is not a true inflammatory reaction of the pia-arachnoid. No organisms have invaded the subarachnoid space, but toxins only, and the condition is one really of hydrops of this space. In what he calls true serous meningitis the fluid is turbid, and contains polymorphonuclears in excess, and the condition is a true inflammatory one due to the invasion of organisms, few in number or low in virulence. The reaction of the meninges is sufficient to destroy them. This method of looking at the condition is certainly the more logical, and connects serous meningitis directly with the purulent variety as a mild form. Indeed, as Citelli says, it may develop into the latter, and this should control our attitude towards it.

[It may here be stated that a number of cases of recovery of purulent meningitis of otitic origin have already been reported. It is a condition to be fought. Frequent lumbar puncture, continued lumbar drainage, labyrinthine drainage, a decompression operation, vaccines, are the lines of attack.—W. S. S.]

—W. S. Syme.

The Relation between Otitic and Intracranial Diseases.

By Gorman Bacon (*Journal of Surgery*, June, 1912).—This communication, which was read before the Clinical Congress of Surgeons of North America in November, 1911, gives a very good *resume*, in the crisp American method, of the intracranial complications of middle-ear suppuration. The various complications—sigmoid sinus, thrombosis, brain abscess, meningitis—are considered, and illustrative cases are cited. While any of these diseases may exhibit phenomena which almost publish their diagnosis, on the other hand, any may develop so insidiously, and the symptoms and signs may be so indefinite, that the diagnosis of an intracranial complication and of its exact nature may be a matter of the utmost difficulty. This is a fact which every otologist of experience will corroborate. It thus behoves us to use every means to establish a diagnosis. In suspected sinus thrombosis, for instance, a bacteriological examination of the blood should not be admitted, though a positive result should not be taken, by itself, as conclusive evidence, as the focus of blood infection may be some other part than the ear, and the sigmoid sinus may be found to be healthy. A case in which a diagnostic error of this kind was made is referred to. Again, in every suspected intracranial complication stress is laid on the value of the leucocyte count, both for the purpose of deciding on its presence and to differentiate its exact nature. Bacon, too, considers a daily leucocyte count of value in estimating the progress of a case.

Other points in diagnosis are referred to, as, for example, the situation of the pain in the head in brain abscess and in meningitis, the character of the vertigo and nystagmus in labyrinthine and cerebellar diseases, the tuning-fork reactions. We commend the attitude of the author in looking at these cases as a whole, considering the various signs, symptoms, and results of tests together in forming a diagnosis, and not relying on individual phenomena, as seems to be the habit with some.

Useful and reasonable observations on the treatment of aural suppuration, and of these intracranial complications are given, and though the paper is not what one would call deep, it is just the kind of article which the non-specialist, at anyrate, may study with profit.—W. S. Syme.

PUBLIC HEALTH AND INFECTIOUS DISEASES.

The Relation of Housing to the Isolation of Scarlet Fever and to Return Cases. By Miles B. Arnold, M.D. (*Proceedings of the Royal Society of Medicine*, Epidemiological Section, March, 1912).—The author first discusses briefly the main advantages of hospital isolation as opposed to the home isolation of infectious diseases. He mentions the following points:—

1. If a source of infection is discovered and removed to hospital, there is obviously less chance of its spreading immediately to the family than if the source of infection is left in the isolation which may be arranged in the home.

2. The social and business relationships of the family concerned are rendered easier and safer if the member suffering from an infectious disease has been removed.

3. In severe cases it is impossible for sufficient attention to be provided in the average home.

The two main objections to hospitals isolation are discussed:—

1. A patient in an isolation hospital is subjected to the risk of contracting a more severe form of the disease for which he was admitted, and may occasionally contract some other disease in addition.

2. Patients when discharged have a power, to an extent not found in those isolated at home, of infecting susceptible persons.

Attention is also given to the current views as to the causation of return cases, with special reference to the belief in the part played by personal infection during and after the recovery of the patient.

Dr. Arnold surveys 3,000 consecutive cases reported in Manchester in 1907 and the early part of 1908, the subsequent cases occurring in connection with them being traced through the three months following the notification of the three-thousandth case. The analysis is mainly concerned with any relationship which may be found between the density of the population in the homes and the success of the isolation of a patient suffering from scarlet fever, either in the home or in hospital. Primary invasions, susceptible persons, density of home population, incidental infections, and return and recovery cases are in turn defined. The figures in the table show the following facts:—

1. Number isolated at home and in hospital.
2. Number of susceptible persons remaining in the home in two groups.
3. Number of persons per room in the houses concerned.
4. Number of incidental cases occurring.
5. Number of cases which occurred after release from isolation of an invading case, either from hospital, *i.e.*, return cases, or from home, *i.e.*, recovery cases.

It is shown that 10·2 per cent of the home group have been attacked incidentally as compared with 1·5 per cent of the hospital group, and the hospital cases return to meet much greater numbers of supposed susceptible persons, and are forced into more intimate contact with them owing to the density of home population.

From an analysis of the table Dr. Arnold concludes:—

1. In Manchester the great majority of cases of scarlet fever nursed at home are in houses with less than one inhabitant per room. A majority of the houses from which patients are removed to hospital have one or more inhabitants per room.

2. The average number of susceptible persons per house is twice as high in the homes of the hospital cases as in the homes of the other group.

3. The difference between the percentage of susceptible persons infected in

the two groups during isolation (counting only cases occurring after the seventh day) is so great that it is evident there is a great leakage of infection occurring during home isolation.

4. When return cases and recovery cases are considered with the incidental cases, there is, in spite of the worse home conditions, a big gain remaining in the hospital group, the percentage of susceptible persons infected being less than half that in the home group, and the actual number of cases credited to each group of one hundred primary invasion cases is less than that in the home group, in spite of the great difference in the chances for infection offered.

5. If it is allowed that a small percentage of scarlet fever patients remain unrecognisably infectious for longer periods than the usual time of isolation, then the conditions to which the hospital patients return are, in comparison with the home treated cases, so favourable for the production of further infections, that it is probably unnecessary to seek any other explanation of the known great excess in the percentage of return cases over that of recovery cases.—John P. Kinloch.

A Clinical Study of Acute Poliomyelitis. By Francis W. Peabody, M.D., George Draper, M.D., and A. R. Dochez, M.D. (*Monograph No. 4 of the Rockefeller Institute for Medical Research*, June, 1912.) The work on acute poliomyelitis carried on at the hospital of the Rockefeller Institute during the summer of 1911 is reported, 183 cases in all being considered, 71 of which were under observation in the hospital for a period averaging from three to four weeks.

The authors first give an historical review of the subject of infantile paralysis extending over the past seventy years.

The section on epidemiology indicates that from the evidence at present available, epidemic poliomyelitis is a human-borne, contagious affection, the portal of entry for the virus of which is the upper respiratory tract, and, in particular, the nasopharngeal membrane.

Since it was shown that the serum of recovered monkeys was able to protect normal animals against fatal doses of the virus, the neutralisation test has been employed with variable results, and from their experiments the authors conclude that they cannot yet rule out the specificity of the test.

A consideration of the pathology of poliomyelitis shows that the disease must be regarded as a generalised process which affects parenchymatous organs, lymphoid tissue, and more especially the nervous system.

In discussing the symptomatology of the disease, it is recommended that three groups of cases be recognised for classification. (1) Abortive cases—cases of infection which never become paralysed. (2) A cerebral group—rare cases in which involvement of the upper motor neurone with resulting spastic paralysis is the chief characteristic. (3) A bulbo-spinal group, which comprises all cases with lesions in the lower neurone and flaccid paralysis.

In the cases considered a relatively larger number of the children came from the suburbs and surrounding country than from the densely populated tenement district surrounding the hospital, and a considerable proportion came from families in which the children had every comfort and care. The absence of any history of previous illness was often noticeable.

In the prodromal period probably the most constant feature was fever. Sweating was uncommon in this series of cases. Drowsiness was often marked, but not infrequently irritability or a closely allied hyperæsthesia was present. Pain on passive movement and spontaneous pain tended to increase as the acute stage was approached. Weakness of limbs or groups of muscles was not uncommonly a forerunner of paralysis. Respiratory disturbances were very infrequent. Gastric symptoms were frequently observed, loss of appetite, nausea, and vomiting being present in a large percentage of cases. Diarrhœa was extremely rare. The vagueness of the clinical picture before the onset of paralysis makes the examination of the blood and cerebro-spinal fluid of great value.

In the bulbo-spinal type of the disease the cases are divided into (1) the usual form with the paralysis appearing on the first or second day after the onset; (2) cases with no prodromes, and whose first symptom is paralysis; (3) cases with a remission of symptoms and delayed paralysis; (4) cases with deep stupor. The general features of the paralyses with their peculiarly unsystematic distribution are next investigated.

In the rare cerebral type the predominating pathological lesion is in the brain itself, and the clinical manifestations suggest a disturbance of the upper motor neurone.

In the abortive type of the disease a history of exposure, the clinical picture, the blood and spinal fluid examinations, and the neutralisation of virus were together used to justify diagnosis.

The tables of blood counts are the records of the blood examinations of the 71 hospital patients. A constant and marked polymorphonuclear leucocytosis was found, and in only one case was there a definite leucopenia.

From the tables of examinations of cerebro-spinal fluids the authors conclude that fluids retaken early in the disease, and especially before the onset of paralysis tend to show an increased cell count with a low or normal globulin count. At this stage the polymorphonuclear cells may amount to 90 per cent of the total, but most fluids show almost exclusively lymphocytes and large mononuclear cells. After the first two weeks the cell count usually drops to normal, and there is frequently an increase in the globulin content. A slight increase in globulin may continue for seven weeks or longer. Analogous changes may be found in the spinal fluid of abortive cases. All fluids examined reduced Fehling's solution.

The final sections deal with prognosis and treatment.

This clinical study of acute poliomyelitis is very complete, and no comprehensive survey of the work has been here attempted. The section on pathology is most useful. As a record of exact hospital observation of poliomyelitis, this monograph is of the greatest value, and its publication is most fortunate at a time when interest in the epidemiology of the disease has been stimulated by the memorandum of the English Local Government Board on acute poliomyelitis.—John P. Kinloch.

The Bed-Isolation of Cases of Infectious Disease. By C. Rundle, M.D. (*Proceedings of the Royal Society of Medicine*, Epidemiological Section, 1912, vol. v, pp. 171-182).—The measures employed to secure bed isolation depend on surgical cleanliness, adequate nursing, and the intelligent supervision of the medical officer. The diseases admitted to the ward are—

1. Puerperal fever and erysipelas, and most cases of pertussis, rubella, and varicella.
2. Notified cases found on admission to have no infectious conditions.
3. Doubtful cases, such as "query" scarlet or diphtheria cases.
4. Cases from other wards requiring operative treatment.
5. Cases of diphtheria or measles when receiving wards pressed by rise in incidence of these diseases.
6. Cases of epidemic diarrhœa when these are few in number.

Dr. Rundle gives a table of the 741 cases admitted to the ward during the years 1910-1911 (to March, 1912) showing the varieties of 527 infectious diseases, 186 other diseases, and 28 with no disease. Of all these cases two patients developed an infectious disease while under treatment. One, a girl, aged 7, admitted suffering from rubella, was allowed up after fourteen days in bed, and thirteen days later developed a typical attack of scarlet fever. She had mixed freely with a child who had undergone mastoidectomy. The other secondary case, a girl, aged 10, with mild faucial diphtheria, was allowed up after twenty-eight days in bed, and in six days' time developed scarlet fever. There were other cases of scarlet fever in the ward at the time.

Cases of erysipelas occurring chiefly among adults were utilised where possible in the separation of prime infections amongst children.

Forty-one cases of varicella received treatment in the bed-isolation ward, and, contact infection being thus excluded, no cross infection occurred.

With whooping-cough, also, there was no evidence of cross infection.

Septic scarlet fever appears to be the only condition which cannot be treated by the method of bed-isolation, as the system demands the detention in bed of patients suffering from complications of an infectious nature, and this period would be sufficiently long to prejudice the patient's recovery. Where no secondary complications are present, scarlet fever can be safely dealt with by bed-isolation.

Two hundred and fourteen patients suffering from no infectious disease—the majority being of susceptible age, and, from the nature of their illness, in a condition of lowered resistance received treatment in the same ward, and at the hands of the same nurses, as 527 patients suffering from one or more of the prime infections, and in no instance was an infectious disease contracted. A consideration of these facts lend support to these hygienists who believe that preventive measures should be directed towards the supervision of "contacts" and "carriers" rather than the disinfection of dwellings.—JOHN P. KINLOCH.

Books, Pamphlets, &c., Received.

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The New Physiology in Surgical and General Practice, by A. Rendle Short, M.B., B.S., B.Sc.Lond., F.R.C.S.Eng. Second edition, revised and enlarged. Bristol: John Wright & Sons, Limited. 1912. (5s. net.)

Social Work in Hospitals: The Samaritan Fund, By Sydney Philips, B.A. London: Longmans, Green & Co. 1912. (6d. net).

The Tuberculin Treatment of Consumption, by H. Vaughan Barber, M.A., L.R.C.P. London: James Nisbet & Co., Limited. 1912. (6d. net.)

Text-Book of Ophthalmology in the form of Clinical Lectures, by Dr. Paul Roemer, translated by Dr. Matthias Lanckton Foster. With 186 illustrations in the text and 13 coloured plates. Vol. I. London: Rebman, Limited. 1912. (10s. 6d. net.)

Materia Medica and Therapeutics, an introduction to the Rational Treatment of Disease, by J. Mitchell Bruce, M.A., LL.D. (Hon.) Aberd., M.D.Lond., F.R.C.P., assisted by Walter J. Dilling, M.B., Ch.B.Aberd. Ninth edition. London: Cassell & Co., Limited. 1912. (6s. 6d. net.)

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Manual of Surgery, by Alexis Thomson, F.R.C.S.Ed., and Alexander Miles, F.R.C.S.Ed. Vol. III: Operative Surgery. With 220 illustrations. London: Henry Frowde and Hodder & Stoughton. 1912. (10s. 6d. net.)

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GLASGOW.—METEOROLOGICAL AND VITAL STATISTICS FOR THE FOUR WEEKS ENDED 20TH JULY, 1912.

	Week ending			
	June 29.	July 6.	July 13.	July 20.
Mean temperature,	55·5	58·5	58·4	59·2°
Mean range of temperature between highest and lowest,	13·6°	14·2	15·7	16·5°
Number of days on which rain fell,	6	6	1	4
Amount of rainfall, ins.	1·25	1·07	0·05	0·83
Deaths registered,	214	202	214	185
Death-rates,	14·2	13·4	13·1	10·7
Zymotic death-rates,	0·3	0·8	0·9	0·5
Pulmonary death-rates,	4·0	3·5	2·3	1·8
DEATHS—				
Under 1 year,	27	45	26	46
60 years and upwards,	55	36	52	50
DEATHS FROM—				
Small-pox,	...	...	...	...
Measles,	2	2	1	1
Scarlet fever,	2	2	1	1
Diphtheria,	3	5	1	3
Whooping-cough,	1	3	2	6
Enteric fever,	1	1	1	...
Cerebro-spinal fever,	1	1	2	...
Diarrhœa (under 2 years of age),	3	3	2	12
Bronchitis, pneumonia, and pleurisy,	31	25	24	28
CASES REPORTED—				
Small-pox,	...	...	...	...
Cerebro-spinal meningitis,	...	2	1	4
Diphtheria and membranous croup,	21	9	32	27
Erysipelas,	18	27	12	16
Scarlet fever,	42	42	25	36
Typhus fever,	1	1	...	6
Enteric fever,	1	7	8	2
Phthisis,	54	38	40	26
Puerperal fever,	1	2	1	1
Measles,*	71	57	37	27

* Measles not notifiable.

SANITARY CHAMBERS,
GLASGOW, 31st *July* 1912.

THE

GLASGOW MEDICAL JOURNAL.

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ORIGINAL ARTICLES.

FOUR CASES OF FRACTURE OF THE LARYNX.[1]

BY WALKER DOWNIE, M.B., F.R.F.P.S.G.,
Lecturer on Diseases of the Throat and Nose, University of Glasgow
and Western Infirmary; Hon. Aurist, Royal Hospital
for Sick Children, Glasgow.

FRACTURES of the laryngeal cartilages are somewhat rare, and as they are interesting as well as rare, I thought it might be of interest to the members of this Society to have particulars placed before them of four cases which have come under my observation during the past eighteen months.

The larynx, although placed superficially in front of the neck, is so freely movable, and its cartilages are so elastic when healthy that it contrives to escape serious injury very wonderfully. Ossification of the cartilages, or any condition which may lead to premature senile changes, render the cartilages more liable to fracture.

The larynx is rarely fractured by a direct blow, unless it is supported at the moment of injury on the vertebral column, as may occur when the head is bent forwards. It is more likely to sustain a fracture by firm lateral compression, such as in garrotting. When a fracture does result from direct injury, it is usually caused by the larynx coming into violent contact with a sharp ridge, such as may occur by the sudden accidental stumbling of the individual, and who in his fall strikes the front part of his neck against some hard, more or less sharp structure.

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[1] Read at a meeting of the Medico-Chirurgical Society of Glasgow held on 3rd May, 1912.

A fracture of the thyroid alone is much less serious than is a fracture which involves the cricoid cartilage as well as the thyroid.

Œdema, emphysema, and suppuration are complications which may supervene, and which may lead to serious consequences. In all of the following cases there was œdema of the laryngeal mucosa, in two cases there was suppuration, resulting in the formation of a large abscess in the neck, and in one case there was emphysema. In my experience there is not much deformity in cases of fracture of the larynx, unless the fracture be complicated by dislocation. The elasticity of the cartilages and the fact that they lie between two layers of a firm fibrous membrane, all three structures being intimately incorporated, one with the other, not only saves them from fracture on many occasions, but prevents displacement of the fragments when fracture occurs.

In the first case there was marked deformity because there was dislocation as well as fracture. In the others there was practically no deformity.

Case I.—The first case was that of a gentleman, 20 years of age. He had been having a few rounds with boxing gloves, and when this exercise was ended his companion caught him firmly, though in play, by the throat. So firm was the grasp that it caused a vertical fracture of the thyroid cartilage in the middle line.

The injury was followed by swelling of the neck, some dyspnœa, slight hoarseness, and considerable discomfort, amounting occasionally to pain on swallowing.

On laryngoscopic examination the whole laryngeal mucosa was found to be deeply injected, and there was considerable œdema of the epiglottis, the cushion of the epiglottis being especially swollen.

Under sedative treatment the swelling subsided, and the urgent symptoms passed away. But the thyroid cartilage did not assume its former configuration: it remained narrow as if the two alæ had been approximated, and its articulation with the cricoid on the left side remained abnormal, so that the thyroid cartilage, during the act of swallowing, jerked over the cricoid with a sound which was audible to those around. The epiglottis had a twist to the right side.

The two alæ when grasped separately, externally, could be made to move on each other, and by this movement crepitation was produced. Broad dilating forceps were inserted within the larynx to expand the two plates of the thyroid cartilage, and by this means the angle between the two plates was appreciably increased, though not returned to the normal relationship: and the normal articulation between the thyroid and the cricoid cartilages was not wholly rectified.

Urgent symptoms have now all passed away, the fracture of the cartilage has healed, but the thyroid cartilage is flattened laterally, and the act of swallowing is still accompanied by a crackling sound.

CASE II.—The second case was seen by me in consultation with Dr. James Andrew, of Coatbridge, on 13th October, 1911. Dr. Andrew published notes of the case in *The Lancet* of 9th March, 1912, and from these I take the following particulars:—

The patient was an engine driver, aged 43, and when he first called on the doctor he complained of pain in the throat and difficulty in swallowing. As accounting for his condition he stated that on 6th October, while at his usual employment, and in the act of trying to open the throttle of his engine, using both hands for this purpose, he felt that he was about to sneeze. He turned his head sharply to one side, away from the fire box, and sneezed violently. A feeling of cramp in the muscles of the neck followed the sneeze, and during the rest of the day his throat was very painful, and he had difficulty in swallowing. The pain increased in severity, he had increasing difficulty in swallowing, and there was a constant accumulation of saliva in his mouth. When I saw him, his neck was slightly swollen, his voice was husky, and swallowing was somewhat difficult and painful. On palpation, crepitation could be felt on both sides of the pomum Adami, and it was most marked in the region of the cricoid cartilage. My opinion was that the cricoid cartilage had been fractured. Two skiagrams were taken at the electrical department of the Western Infirmary by Dr. W. F. Somerville. These indicated a definite fracture of the cricoid cartilage, and in addition, there was a line running obliquely across the thyroid cartilage close to its lower border, which seemed to indicate a fracture of that cartilage as well. By the courtesy of Dr. Andrew I am able to show you prints of those x-ray photographs to-night.

Dr. Andrew moulded a poroplastic splint to the neck, which was worn by the patient for twenty-one days, at the end of which time all pain and discomfort had disappeared from the neck.

The combination of circumstances which led to the fracture may not be uncommon, but the production of fracture in this way must be very rare: personally I do not know of any record of a similar case.

The man was exerting himself strenuously, so that the muscles of both arms and his chest were fixed. The sudden sneeze with the head averted, brought the larynx somewhat obliquely into violent contact with the hard edge of a stiff collar, against which the cartilage was fractured.

CASE III.—On the evening of 7th November, 1911, James A., aged 60, was seated on a low stool chopping wood for kindling. He was alone in the house, and had no shoes on his feet. Hastily rising from his seat to admit someone who had knocked at the door, he stepped on a tack which had been lying on the floor, point upwards. The unexpected sharp pain caused him to stumble forwards, and in falling the front part of his neck came into violent contact with the sharp edge of the upper bar of the back of a wooden chair. The resulting pain, which was severe at the time, subsided as the night wore on, and although it never wholly disappeared he paid no special attention to the injury at the time, although the front of the neck remained swollen. Ten days later, however, the pain increased in severity, and its reappearance was accompanied by a sudden increase of the swelling in the front part of the neck.

When he came to the Western Infirmary, a fortnight later, the neck, from the level of the hyoid to that of the suprasternal notch, was greatly swollen; and the swelling, which was fluctuant, extended backwards to the angle of the jaw on each side.

His voice was husky, and he had noisy respirations when at rest, and considerable dyspnœa on exertion.

By palpation, crepitation of the laryngeal cartilages was readily felt, and after careful manipulation it was determined that there was a transverse fracture of the thyroid cartilage, and that both plates were implicated.

On laryngoscopic examination œdema of the larynx was observed, and the parts specially affected were the epiglottis, the ary-epiglottic folds, and the ventricular bands.

He was admitted to a surgical ward as an urgent case, where the abscess was opened. The incision healed satisfactorily, but there is still some crepitation at the seat of fracture.

This is a case of fracture of the thyroid cartilage resulting from a direct blow, and in which there is a clear history of the method by which it was produced.

CASE IV.—Alexander E., aged 31, was sent from Govan to the Western Infirmary on 7th December, 1911, on account of urgent dyspnœa.

The history given was that on the previous Saturday—two days before—he had been intoxicated and in a very quarrelsome mood, and as a consequence had engaged in a series of free fights, in which he had been rather severely mauled.

Two days later a doctor was called in, and he referred the man to the infirmary.

He was admitted as an urgent case, having considerable dyspnœa, with noisy respirations. There was a hard, brawny, and painful swelling of the front of the neck, with slight emphysema in the supra-clavicular region on the right side. On firm palpation, crepitation over the thyroid cartilage could be detected.

Laryngoscopic examination revealed œdema of the whole laryngeal mucosa, the epiglottis being particularly swollen.

Medicated steam inhalations were prescribed, and hot fomentations were applied round the neck.

The laryngeal œdema subsided satisfactorily, but the swelling in the neck continued to increase, and at the end of ten days there was evidence of fluctuation close to the middle line anteriorly.

The resulting abscess was opened freely, and through the incision it was found that the left wing of the thyroid cartilage was bare, and that it was fractured. The wound in the neck healed quickly, and all local discomfort disappeared.

The man remained profoundly anæmic—he himself said that all the men working beside him in a galvanising work were also white—and he was transferred to a medical ward. He did not improve appreciably, and at intervals he had attacks of severe pain which affected different parts of the body. Ten days after his transference he had an attack of severe abdominal pain. It became more intense towards the evening of that day, and he died very suddenly the same night.

Unfortunately, permission to have a *post-mortem* examination was refused by his friends.

In this case no history could be obtained to explain the fracture of the thyroid, but it was said of the patient that when under the influence of alcohol he was always keen to fight. Very possibly he had been gripped firmly by the throat during a scuffle on Saturday night, when he received the injury which I have described, and which in former times was associated with garrotting.

NOTE ON A CASE OF ELEPHANTIASIS OCCURRING IN THIS COUNTRY.[1]

By WALTER K. HUNTER, M.D., D.Sc.,

Muirhead Professor of Medicine, Glasgow University; Physician, Glasgow Royal Infirmasy.

ELEPHANTIASIS is essentially a disease of the tropics, where it is endemic. Sporadic cases, however, are occasionally to be met with in people who have never been out of the British Isles, and the patient I have to bring to your notice comes under this category. She was a woman, aged 61, and was admitted to Ward 9 of the Royal Infirmary on 6th October, 1911. It was difficult to get a satisfactory history of the illness, but, as far as could be made out, the swelling in the legs came on about thirty years ago, subsequent to repeated attacks of erysipelas, and for many years the swelling had been so considerable that the patient had scarcely been able to walk. There had been from time to time during these years ulcers of various parts of both legs. Six weeks before admission the abdomen began to swell, and this swelling became so marked as to cause some difficulty in breathing.

The patient insisted that she had never been abroad. She had been married to a soldier, and she had three miscarriages within the first two years after her marriage; it is probable that she had had syphilis.

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[1] A communication made to the Glasgow Medico-Chirurgical Society on 1st March, 1912.

On examination she was found to be exceedingly stout, weighing probably from 16 to 18 st. There was a considerable amount of dyspnœa, and it was with difficulty that she could even turn herself in bed. The abdomen was greatly distended, measuring in circumference 58 inches at the level of the umbilicus. The spleen could be palpated 7 inches below the left costal margin, and there were signs of a considerable amount of fluid in the abdominal cavity. The cardiac area was not increased in size, and the sounds were pure and of fairly good quality. The lungs were clear to percussion, and beyond some slight râle at both bases they seemed fairly healthy.

Both legs were very greatly increased in size, and swollen in such a way as to alter considerably their general contour. The measurements were:—Round the thigh, 26 inches; below the knee, 22 inches; and round the ankle, 19 inches. There was no pitting on pressure, the subcutaneous tissue being dense and firm. There were a number of cicatrices, especially in the neighbourhood of the natural folds of the skin, and the swelling and cicatrisation hindered considerably the movements at the knee and ankle joints. The left heel was drawn up in the position of talipes equinus.

The examination of the blood gave the following count:—

Red corpuscles, ...	3,400,000 per c.mm.
White corpuscles, . . .	6,800 per c.mm.
Hæmoglobin, ...	65 per cent.

The urine had a specific gravity of 1017, and contained a faint haze of albumen.

The abdomen was tapped the day after admission, and 450 oz. of a clear serous fluid withdrawn. Fluid, however, quickly gathered again, and the patient was tapped twice in the next four weeks. Subsequent to the third tapping she seemed to have a good deal of pain, and she was very restless and sleepless. She gradually went downhill, and died on 26th November. There was some slight irregular fever for the first three weeks after admission, but it never went above 100·6°.

At the *post-mortem* examination the heart was found to be slightly dilated, with the muscle wall undergoing fatty degeneration. The aortic and mitral cusps were thickened and atheromatous, and the coronary arteries showed some commencing atheroma. The lungs were emphysematous and congested. In the abdomen there was found to be a quantity of a thin, purulent fluid, and the intestines were covered with a fibrinous exudate. There was both perihepatitis and perisplenitis, and the adhesions round these organs were dense and firm. The liver was slightly enlarged, and its surface was roughened. The spleen was greatly enlarged, and its capsule, as well as the capsule of the liver, was much thickened. There was recent clot in the portal and splenic veins, and both these veins had calcareous patches in their walls. There was, however, no organised thrombus in the portal vein, or in any of its branches. The kidneys were slightly enlarged and rather congested, and the capsules were adherent to a certain extent. The retro-peritoneal glands were enlarged.

On microscopic examination (made by Dr. J. H. M'Nicol), the liver showed a marked multilobular cirrhosis, and a fine monolobular cirrhosis as well. The capsule of the spleen was seen to be greatly thickened, and the trabeculæ more prominent than normal. There was, however, no very definite fibrosis of the gland otherwise, and, in particular, the splenic pulp was not atrophied.

In the kidneys there was evidence of a definite catarrhal nephritis, with some increase of the intertubular connective tissue. The vessels, too, were thickened and sclerosed.

The retroperitoneal glands examined were apparently hæmolymph glands, and they showed hyperplasia of the lymph nodules, for the gland was more or less overrun by lymphocytes.

There was nothing specially abnormal to be noted in the sections of the skin from the lower limbs beyond hyperplasia of the subcutaneous tissue. There was no thickening of the epidermis, and the cutis vera was not unduly fibrous. Here and there, however, there were small collections of mononuclear cells.

Remarks.—From the above report it will be seen that the patient had not only an elephantiasis affecting the lower limbs, but also some of the symptoms and pathological appearances met with in Banti's disease. It is not suggested, however, that the one condition had any relationship to the other.

As to the elephantiasis, it seems to depend on some obstruction to the flow of lymph from the part affected; and in the cases occurring in the tropics the obstruction is apparently most often due to the presence of a nematode—the filaria sanguinis—in the lymph vessels. This parasite not only produces lymph stasis, but also a chronic lymphangitis, with chronic hyperplasia of the skin and subcutaneous tissue. Sometimes the skin is little altered, but in other cases it presents nodular excrescences, or has the appearance of ichthyosis. The cases occurring in this country seem to be due to recurring attacks of cellulitis causing a similar obstruction in the lymphatic vessels. Such attacks may recur at irregular intervals, but each attack leaves the limb larger than before, till ultimately the limb has become permanently hypertrophied. The skin of the affected limb tends to get thrown into folds, with deep sulci in between. But any chronic ulceration of the skin may lead to elephantiasis, and so it is sometimes met with in lupus or syphilis of the lower limbs. A chronic œdema, too, of the subcutaneous tissues, if of sufficient duration, may produce an elephantoid condition.

A number of cases of elephantiasis occurring in this country are figured in *The New Sydenham Society's Atlas*, Fasciculus XVIII, Plates A to G.

CASE OF CONTUSIONAL PNEUMONIA.

By JOHN W. MATHIE, M.B., C.M.

THE following are notes of what seems to have been a case of contusional pneumonia, the first and only case of its kind which the writer has met with:—

The patient was a man, aged about 45 years, who, whilst cleaning the inside of a church window, fell, coming down on the top edge of a pew, and striking the left side in the region of the lower ribs. He was stunned by the accident, and had to lie on one of the seats for about half an hour. Then, feeling better, he resumed work, but in a very short time had to cease and make his way home, which he did with difficulty.

The accident took place about the middle of the day. I did not see him till late at night, when I found him with a temperature of 103·6°, and complaining of severe pain just where he struck, viz., over the lower ribs in the mid-axillary line on the left side. There were no signs of bruising, or of fractured rib; of the latter fact one could be certain, on account of the fact that the patient was such a thin man that each rib could be followed along its length quite easily.

Next morning his temperature was 101·6°. and there was cough and colourless spit, but no definite signs of lung implication.

On the third day there was distinct tubular breathing and slight dulness over the back of the left lower lobe, and this became more marked on the succeeding days. The temperature kept about 102°; cough and pain continued, but were moderate in severity.

On the sixth day of illness his temperature in the evening dropped to normal, and the pulmonary signs soon cleared up.

Examination of his urine shortly after the commencement of the illness revealed a large quantity of albumen: this has become much less, but still persists, two and a half weeks after the crisis. He has no kidney symptoms otherwise, neither headache, sickness, defective sight, nor dropsy. It is known that he had a little albuminuria about sixteen months ago, when he was examined on proposing to go abroad.

On two or three occasions during the acute part of the illness, and twice in the week following the crisis, the patient passed some blood by the bowel, sometimes black and clotted. at other times red and more liquid. The source of this was not quite evident.

The patient says he was feeling quite well previous to the accident. He has had pneumonia twice previously.

When speaking about this case of pneumonia, peculiar in origin, the writer's attention was drawn to the fact that reference was made to this so-called contusional pneumonia in the *British Medical Journal* for 25th May, in the *Epitome* of current medical literature. In the article by a German writer to which reference is made, it is said that the name "contusional pneumonia" was given by Litten to cases of lobar pneumonia resulting from contusion of the thoracic wall. In the German writer's three cases the injury was the result of falling from a height: rigor and signs of illness began two hours after the accident in one case, four hours in another, and five hours in the third. The crisis was reached on the third, third, and fifth days respectively. He says that the sputum in the cases was not more hæmorrhagic than usual.

NOTE ON THE INSERTION OF THE RECTUS ABDOMINIS MUSCLE.

By A. BLAIR AITKEN, M.B., Ch.B., F.R.C.S.

That the rectus abdominis has an attachment to the linea alba is not generally stated in anatomical text-books. If, however, in exposing the posterior wall of the rectus sheath during the course of a median subumbilical laparotomy, the inner border of the muscle is raised by slipping under it a director and running the instrument from below upwards, the muscle is left with a ragged edge, and the instrument tends at times to slip aside into the substance of the muscle. This does not occur if separation is effected from above downwards, and suggests a definite attachment of the muscle to the linea alba. Mr. R. H. Parry pointed this out to me, and at his suggestion I examined a number of subjects (50 in all) with this point in view: in all cases a definite attachment of the rectus to the lower part of the linea alba could be demonstrated.

Certain of the inner fibres of the muscle fail to extend down as far as the symphysis pubis, but pass obliquely inwards, and are attached to the linea alba by a series of little tendinous fasciculi, similar to those found at the insertion of the pyramidalis. Occasionally these tendons are not evident, and the muscle fasciculi appear to end directly in the fibrous tissue of the middle line.

The upper limit of the insertion varies very considerably, but is usually from 2½ to 3 inches above the symphysis pubis. In none of the subjects examined did it extend above the inner extremity of the fold of Douglas, and it frequently fell short of this by 1 to 1½ inches, *i.e.*, the attachment exists only where the posterior wall of the sheath is deficient or absent.

In the 50 subjects examined, the pyramidalis muscle was absent in both sides on 3 and on one side in 7. The rectus showed the usual insertion into the linea alba. It was noticeable, however, that where the pyramidalis muscle was present, the fasciculi of the rectus, reaching the linea alba at the level of the insertion of this muscle, were stronger than those above or below.

In most English text-books of anatomy there is no mention made of this attachment of the rectus abdominis. In Quain (tenth edition) it is stated, under the heading of "Varieties," that the rectus is sometimes joined by some fibres springing from the lower part of the linea alba. Macalister and Le Double (both quoting an observation by Nicaise) also refer to this as an anomaly. Poirier, however, describes the attachment as constant, and the above observations are in agreement with this authority.

The presence of this attachment of the muscle is not without a certain practical importance, and seems to deserve a wider notice in the text-books.

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SOME ASPECTS OF MEDICAL LIFE IN OLD GLASGOW.[1]

BY HUGH A. M'LEAN, M.B.

IN all probability the healing art was introduced into our city co-temporary with the arrival of the monastic orders, and from records which have been preserved we know that the members of some Continental monasteries required not only to be shaved but also bled at regular intervals—"Septembri, ante adventum, ante quadragesima, post pascha et post pentecost"—hence the monks included in their numbers certain persons who could shave and bleed as required, and thus arose the profession of barber-surgeons, whose association is still set forth by the striped pole displayed from many a barber's door in our own city: the striping of the pole representing the ribbon or bandage tied round the limb about to be bled, while the pole was simply the staff which was firmly grasped by the patient during the operation. There is little doubt, moreover, that these skilled monks—who probably looked for no reward on this planet—would perform like services for the poorer inhabitants of the infant city; but as the burgh increased in size and dignity there would gradually arise a demand for a skilled profession to deal with all the ills which the human flesh is heir to.

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[1] An Address delivered to the Glasgow Eastern Medical Society, 6th December, 1911.

Probably the first direct reference to a practitioner in Glasgow is that contained in the accounts of the customers of the burgh of Linlithgow, 1393-1395, where there is a remission made by order of the king to William, physician of Glasgow; also an order for payment of £2, 13s. 4d. to the same person. Then follows a long period during which, so far as I am aware, no reference is made anywhere to the presence of a physician or surgeon in our city, until 1505, when, in the Protocol book of Cuthbert Simon, there is mentioned, in connection with the sale of an annual rent, one John Murref, "cirurgion."

Probably the first authentic information, however, concerning medical life in Old Glasgow is contained in a minute of council dated 17th May, 1577, which reads thus:

> The proueste, baillies, and counsall understandand the supplicatioun gewin in be Alexander Hay, chirurgian, quhairby he is myndit to remane in this toune, being in redyness for serwing of the towne in his craft and art, thairfor for his support thai haif grantit . . . ane yierlie pensioun to him of ten merks money and attour the said Alexander for serwice bigane is maid burges and frieman of the burgh and citie of Glasgow and sall paye na manner of taxt in tyme cuming conforme to the preuilege haid be the umquhile Jas. Abernethie hes maister.

We gather from this minute that even at this early date a surgeon was in receipt of a retaining fee and, as a further inducement to reside in the town, he was presented with his burgess ticket. Glasgow would now be a town of some five thousand inhabitants, and it is not to be expected that one medical man could give adequate care and attention to so many people — albeit they would probably be healthy specimens—and a few years later we find reference to another surgeon:

> *7th Mch., 1580.*—Archibald Davidson, flescher, is maid burges and frieman quhais fynes wes gewin to Thomas Mylne, chirurgian, for his cureing of Thomas Muir hurt in the tounes besynes.

Mylne also decided to reside in Glasgow, and in January, 1588, we find a record that

The baillies, counsall, deaconis and remanent friemen comburgessis of the burgh and citie of Glasgow conveenit in the tolbuith thairof . . . for rouping the lands . . . imprimis biddin be Thomas Myln, chirurgen, for the Mylnedameheid, Peitbog and Dassiegrene the soume of ellevin hundreth merkis.

From the accounts of the burgh of Glasgow, 1590, in "the rentall of the new revin-out lands of Myludamheid, Peitbog and Dassiegrene" we find this item:

The Myludamheid occupiit be Thomas Myln, chirurgin, 13/4d. Item, the Peitbog and Dassiegrene occupiit be the said Thomas, 6/8.

This was probably the sum payable in name of feu-duty. Fully sixty-seven years after this (1657) there appears a similar entry, viz.:

Thomas Mylne for Peitbog and Dassiegrene, 6/8d.

While it is possible, this is most unlikely to be the same Thomas Mylne, and was probably a son (an additional note of this is taken further on). Mylne knew, like the majority of us, what it was to work for nothing, and the next extract relates to a case which Mylne attended, and when he sent in his bill the person to whom it was rendered repudiated liability:

Thomas Kneland is absolvit fra the soume of fyve marks sex schillings allegit promittit be the said Thos. Kneland to Thomas Myln, chirurgane, for the cureing of William Dowglass, sone to Johnne Dowglass of Harwood, and that in respect of the said Thos. Knelandis aith gevin thairupon, referrit thairto be the said Thomas Myln.

Dr. Mylne, however, did not confine his activities to surgery and the simple life, but, as we see below, he felt constrained to express an opinion on certain men and matters —to his own undoing:

3rd June, 1589.—In presens of the Provest, baillies and counsall, comperit Thomas Myln, chirurgene, being accusit be James Flemyng and James Stewart, baillies, for calling of thame [tratouris] and dissavearis and speiking sclanderouslie of the toun [calling] it hungrie toun of Glasgow. The said Thomas confessit [that he callit certane] of the saidis baillies treasonable dissevaris . . . and he became in the prouest, baillies and counsalis will for [the said] offence: wha declarit immediatlie thair will that [be resoun] of his odious and grit offence and sclander . . . and for giving of utheris example to abstene fra the lyk heireftir thai statut and

> ordanit that the said Thomas Myln shall compeir at the croce and thair confess oppenlie in presens of the people, his fault and grit sclander committit be him . . . and thaireftir his pension to be dischargit during the space of ane yeir.

I come across an interesting item at this same date. This is where a certain Johnne Park—it does not say if he was a surgeon or not: sometimes the title was omitted—having promised to cure Helene M'Neill of a disease from which she suffered, for the sum of "fyve marks," he took the "fyve marks" to begin with, but did not cure Helen of her trouble: and this is a record of the decision ordering him "to rediliver to hir the said soume back agane."

As there is no notice in the burgh records of the decease of the Alexander Hay already mentioned, we may assume that he was still alive, and that Dr. Mylne was in receipt of a retaining fee as well. In point of fact, the council seemed to be quite impartial in their patronage, as new names are continually appearing:

> On 23rd April, 1596, James Pawtone, merchand, is maid burges . . . quhais fines are remitted gratis be the baillies and counsale to Allaster M'Caslan, chirurgeane, for his service done be him in cureing of sundry puir anes in the toune and for his service to be done in tyme coming.

There were, however, other physicians in Glasgow at this date, for in the Protocol books of the town-clerks we find, in connection with the sale of "40s. lands at Overshiells, Kilbryde, Shire of Lanark, in the dwelling of the Subdean of Glasgow on 2nd February, 1598, at 2 P.M.," that one of the witnesses to the transaction was Mr. Robert Hamilton, of Craigthorn, "medico": and on 13th February, 1598, at 8 A.M., in connection with some property part of the marriage settlement of Dr. Anderson, writer, to his future spouse, Margaret Scharp, we find that the resignation was witnessed by Adam Flemyng, "chirurgo." Under similar conditions Dr. Flemyng introduces us to a celebrated townsman and his future spouse. I shall give this extract:

> *26th May, 1599, 3 p.m.*—James Lyone, merchant citizen, sold to Maister Peter Low, chirurgiun, and Grissel (Grisselledem) Pollart, spouses, a fore tenement under and above with a waste house adjoining, being part of a tenement fore and back with yard and pertinents, some time belonging to the umquhill Matthew Heriot, lying on the west side of the street leading from the Metropolitan Church to the Market Cross. Witness, Adam Flemyng, surgeon.

Lowe was also in receipt of a civic pension or retaining fee, as by minute of 17th March, 1599, "it is aggreit of new and contractit betwixt the toune and Docta Low for xxiv merkis money be yeir." He was a native of Scotland—probably a native of Glasgow; at least we know that in 1590 he had a brother, John, resident in the city. In the introduction to his *Discourse of the whole Art of Chirurgerie* he says that he had practised in France and Flanders for twenty-two years, thereafter being chirurgean-major to the Spanish regiments at Paris for other two years. "Next," he says, "I followed the French king my master in the warres 6 years, where I took commoditie to practice all points and operations of chirurgerie."

He settled in Glasgow in 1597 or 1598, and as the Protocol, already quoted, informs us he purchased on behalf of himself and his wife a dwelling on the west side of High Street. Grissil Pollart, his wife, pre-deceased him, and he married again, this time a daughter of Mr. David Wemyss, the minister of Glasgow. He was thus a man of some education, well read, conversant with the teachings of the Continental schools, and no doubt possessed of that broad outlook on life which extensive travel generally brings to a mature mind.

Whether it was due to the expression of opinions derived from his experiences of life abroad or not we cannot say, but we know that very shortly after his arrival in the city he said or did something which brought him under the ban of the kirk session, and he had to "stand the pillar" three times. It is quite obvious, moreover, that when Lowe arrived in Glasgow, in addition to the few regular practitioners, there were others "as quacksalvers, charlatans, witches, charmers, and divers other sorts of abusers," but the most part of them "lacke both soul and conscience and feare of God . . . promising marvails to cure all things in short space," and, to make it more plausible, they enterlace scripture. So notorious had this become that the session proposed to take action, and a committee composed partly of the councillors and partly of ministers was appointed

> To examinat and tak tryall of all sic persounes as usit or sal happin to use the arte [*i.e.*, medicine or surgery] within this toune in time cumying.

It has been suggested that the session took this step on Lowe's advice, but I think that this is hardly likely, as Lowe, being but human, was probably not over well disposed towards the body which had so recently subjected him to the indignity of the pillar; not only so, but Lowe, in all probability spurred by this action of the session, immediately took steps to procure from the King the "Letter of Gift" which founded the Faculty—now the Royal Faculty of Physicians and Surgeons in Glasgow. This was granted to "Mr. Peter Low, our chirurgiane and chief chirurgiane, to our dearest son, the Prince," with the assistance of Mr. Robert Hamilton, professor of medicine, and authorised them

> To call, summon, or convene before them . . . all persons . . . using the said art of chirurgerie, and to examine them upon their literature, knowledge and practice, and if they be found worthy to admit . . . and to discharge them to use ony further than they have knowledge passing their capacity least our subjects be abused.

It also authorised or instructed them to visit every hurt, murdered, poisoned, or any other person taken away extraordinary, and enacted that "no manner of person sell any drugs, except the same be sighted by William Spang, apothecary," and it further enacted that the visitors of the newly constituted faculty "shall convene on the first Monday of each month at some competent place to visit and give counsel to poor diseased folks gratis.

Lowe was evidently a man who possessed in great degree the confidence and respect of his fellows, and when the Duke of Lennox was appointed Ambassador to France

> At the special request and desire my Lorde Duke's grace the council . . . gevis licence to Maister Peter Lowe, chirurgian, to pass in company with my Lord Duke, and dispenses with his absence . . . and that he may injoy his pensione . . . quhill . . . the said tyme as sal happin his Lordschip to returne.

At the end of 1604, in the conference between the representatives of the merchants and crafts which resulted in the "Letter of Gildrie," one of the spokesmen from the crafts was Maister Peter Lowe, and in 1605 in the Protocol book of Archibald Heygail we find that Lowe received an instrument of sasine "as attorney for and in the name of the Crafts Hospital of a house outwith the North Port." He died in 1610, and was buried in the High Kirkyard.

At the period with which we are dealing surgeons were practically free from taxation. This arrangement may have been quite satisfactory and fair in the earlier stages of the city's history, but now it became somewhat burdensome and inequitable, and a minute of council (5th November, 1605), sets forth that—

> Sundry persons had refused to pay their stent . . . but pretendis exemptioune thairfra, specially mediciners, chirurgiounes, barbouris, procuratoris, messingers, notteris and sic uthers,

and the council therefore enacted

> That all sic persounes quha usis ony frie libertie within this burgh . . . sall be subject to pay stent.

As was to be expected, such a valuable privilege was not yielded up without a struggle, and the subject crops up every now and again. In April, 1635, the council are warning "the visitour of the chirurgians anent their stent." Things dragged on until 1693. On 3rd November of that year a petition was presented to the council by the chirurgians and pharmacians,

> Craveing to be free of stent and other public burdens conforme to this gift granted to them by King James the Sixth, and thereafter confirmed by Parliament.

The council appointed a small committee consisting of the Provost, two past Provosts, the Dean of Guild, with the Deacon Convener, and another to consider and report. This report I have not been able to discover, but the finding was evidently not favourable to the surgeons, as a search of the records of the decisions of the Lords of Session[1] reveals the fact that on 17th July, 1694, a stated case came up for on appeal—

> The Surgeon Apothecaries of Glasgow contra the Magistrates thereof in a suspension on a declarator of exemption and immunity from paying cess in regard that King James VIth in his letter of priviledges excerned them in 1599 from all warding, watching stents and taxations, both for their skill and because they had the inspection of the Apothecaries drugs for the 5 neighbouring shires, and so it was onerous. That the same was ratified by Parliament in 1672. The Magistrates answered that the publick Act of Parliament derogated from all private exemptions. The Lords found that the Chirurgians could plead no exemption from the present cesses, and therefore repelled their declarator and decerned accordingly.

This decision seems so emphatic that one might be surprised to find that the matter did not end there, as on 27th October, 1784—

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[1] Lauder's *Decision of the Lords of Council and Session.*

The Magistrates and Toun Council anent the petition given in to them be John Boyd, pretendit visitor of the faculty of chirurgians and pharmacians, shewing that they are ordinarly warned be the toun's officers to weapon-shawing, watching and warding with the other inhabitants of the burgh albeit they are not liable thereto; firstly, because the same is inconsistent with their employments of chirurgerie and pharmacie, being operations on the bodys of men and dispensing of medicines to them which in a great many particulars are ordinarly daily occurences, and can admit of no delay without hazard of lyfe or the danger of the health of the patient which the petitioners conceive is sufficient ground for exemption, especially considering the paucity of their number in such a populous place as this; and secondly, that they were priviledged with these immunities by ane particular gift in favours of them and their predecessors by King James VI, confirmed by Parliament, and therefore craving that the Toun Officer might be discharged to warne the petitioners to any weapon-shawing, etc.

The Magistrates with the Dean of Guild and the Deacon Convener after consideration recommended

That the chirurgians and pharmacians should be liable to watching and wardings in respect that they are incorporate with the barbers in a deaconrie, and that by their burgess oath they are bound to all taxations, watchings and wardings, as also in respect that they keep shops and open trafique of trade, and take prentices who by their apprenticeship have the priviledge of burges and gildbrother as well as prentices of other merchants or traders. Which report being heard the Magistrates and Toun Council approved thereof, and doe find and declare that the chirurgians and pharmacians of this burgh are lyable to the watchings and wardings with the other inhabitants when required and appoynts the magistrates present to come and see performance accordingly.

This has been somewhat of a digression, and now we get back to our subject proper. Our first duty is to note with regret that the records of the kirk session for 1620 inform us that one, "Dr. Ross—trilapse in fornication—was passed, having paid 100 merks to the poor." The title "doctor," however, did not necessarily imply that its possessor was a member of the medical profession. The masters of the Grammar School, for instance, were generally referred to as "doctor," and for the sake of example we hope that in this case Dr. Ross was not a disciple of Æsculapius.

I do not intend quoting the very frequent extracts of this period, which show that the city fathers still deemed it desirable to encourage medical men to settle in Glasgow by presenting them with their burgess ticket, but to remark that the next minute—typical of many others—indicates that the council were fairly generous to citizens who had been unfortunate:

> *28th February, 1640.*—Ordanes the thesaurer to pay to Johnne Cors twenty markes to helpe to pay for the curing of his sone's leg that was cut from him.

Further, we have information that the barbers on occasion did more than bleed the citizens:

> Malcolm M'Lauchlan being convict for hurting and bluiding of John Patersoune and haifand na thing to mak satisfactioun to the said John Patersoune nor yet to the barbour quha curit him, is banist this toune, and gif evir he be fund in this toune to be nailt be the lug to the trone except he pay the said John xxLi for hurting and curing him.

While engaged recently in some research in the Register House in Edinburgh I came across the will of a local practitioner, Andrew Mylne by name, dated 31st August, 1635. He died in October of the same year. In the inventory his household furniture is valued at £50. He left a good many unpaid (to him) accounts—items such as this:

> Johne Flemyng in Murray, for cureing of him of ane wound, £33, 6s. 8d.; Cuthbert Hamilton of Cadder, of cureing him of ane greit wounde in the heid and for furnessing him the time of cure, £66, 13s. 4d.; umquhill Wallace of Elderslie and . . . Wallace his son, for curing him of ane wounde in the leg, £33, 6s. 8d.

There was due to him also £45, 13s. 4d., a sum or sums which he had loaned. He evidently acted as a sort of factor to the Castlemilk estates, and had collected or uplifted money to the extent of £226, 2s., which he or his executors had paid over. There was in all a balance in his favour of £125, 16s. 7d., which does not seem a large sum to spend a lifetime in amassing. After commending himself to God Almighty, his Creator, he appointed trustees, including Provost Patrick Bell; also tutors for Andrew and Marion Mylne, his bairns (being, I expect, under age). He likewise appointed these tutors and other two as overseers to the said "bairnes," and to "Thos. and Elspeth, my other two bairnes, to see the gear employit to ther weill." He left to James Hamilton, a son-in-law, 200 merks; to Jean Mylne, his natural daughter, £40; to the Crafts Hospital, 40 merks; to the Merchants Hospital, £20; to Margaret Sommer, his spouse, the "next best sylver piece quhilk shoe accepts in satisfactioun of all the ½ or ⅓ pairt of the haill sylver wark"; the next best to James Hamilton, his son-in-law; and to Elspeth Mylne "the warst sylver piece."

He must have been twice married, as there is a will of Marion Hall, spouse to Andrew Mylne, chirurgeon. She died 16th August, 1632, three years before him. She had a small holding, and left to her husband "the haill ground under pease and oats, twa kye and the household goods and plenishing," amounting to £257, 13s. 4d. She was owed also £470, 13s. 4d., and she owed £154, 3s. 4d. Her will was witnessed by Thos. Myln, son to Andrew Mylne. Her husband was sole executor, with a request that "he would do his duty to her bairns according to her estate."

In the early part of this paper, while speaking of Thos. Myln in connection with the land he rented at Peitbog, &c., I mentioned that sixty-seven years later, which would be 1697, there was a similar entry. Now it is quite possible, even probable, that the Thos. Mylne referred to then is this Thomas Mylne, who would thus be a nephew of the Dr. Milne who slandered the provost and baillies.

We now make the acquaintance of a practitioner or practitioners who played a not unimportant part in the history of our city. This is John Hall, surgeon. So far as one can judge from the material available, the Halls were an old Glasgow family. The name occurs frequently in the Protocol books of the town clerks, *e.g.*, Bailie John Hall (I shall show you the significance of this title in a little) gives sasine of various properties—14th December, 1548, 13th August, 22nd November, 18th December, 1549, and very frequently thereafter. Now, in connection with the sale of a tenement on the west side of the High Street (6th December, 1598, 10 A.M.) one of the witnesses was "John Hall, chirurgo," who resided on the north side of the Trongate. However, the first extract to which I desire to refer is dated 1633, where payment of £8, 14s. is made to "Johne Hall, chirurgiane, for the cureing of ane puir boy's arme." Now, in 1642, there died another John Hall, "chirurgian." The John Hall to whom we are referring died in 1698. In 1719 died a "John Hall, chirurgian, son of the deceased John Hall, chirurgian." This deceased John Hall must have died between 1717 and 1719, as in the will of the junior Dr. Hall there is a bond for £150 by Robert Lord Blantyre to John Hall, elder, "chirurgian," dated 4th August, 1715. This was assigned by John Hall, elder, to his son on 28th June, 1717, which meant that Dr. Hall, elder, was living at that time, but he was deceased by 1719, and in the *Glasgow Courant* for 19th January, 1748, there was an advertisement—"For sale, the haill of that laigh fore shop or booth next to and on the north side of the Tolbooth of Glasgow [and I desire you to remember this spot carefully], which belonged to the deceased John Hall, surgeon."

This, however, is another digression, and we must revert to the John Hall who specially concerns us. I desire to reintroduce him through another minute of council:—

> *28th August, 1648.*—Ordaines the thesaurer to have ane warrand for the soume of ane hundreth merkis money debursit bi him to Johnne Hall, chirurgeoune, for his service in attending the magistrates at all tymes anent the pestilence.

And in October of the same year—

> Fourtie pundes in compleat payment of his haill paynes takine bi him in sichting all those wha were under suspicioune of the pestilence in respect he tuik naething fra nae maner of persoune, naither fra poore nor rich for his paynes.

He was evidently a *persona grata*; but another extract of this nature will suffice:—

> *29th January, 1653.*—Ordaines the thesaurer to pay to John Hall twentie merkis for cureing ane poore woman's arme of twa great ulsters, in regard sche was lyklie to have lost the same, and thairby become burdensome to the toune, being ane burges bairne.

Not only did the council subsidise acting practitioners, but from a minute of 23rd April, 1653, we find that they were also willing to stretch out a helping hand to those who had fallen by the way, as on that date £20 is paid to "Andrew Muir, chirurgen, for his helpe and supplie in this his present distressit estate."

In 1656 the Faculty of Physicians and Surgeons craved to have their "Letter of Gift" supplemented by a "Seal of Cause." The town council appointed the Deacon Convener and the Dean of Guild to consider "as to the articles to be continit thairintill," and on 16th August, 1656, a letter of Deaconhead was granted to the surgeons and barbours on the request of John Hall, their "heidisman or dekene."

In the accounts of the burgh for 1668 we find this item—"To John Hall, the toune's chyrurgian, £66, 13s. 4d." He succeeded one James Frank in this position. Frank, whose nature was evidently not quite so satisfactory as his name, had been appointed "toune's physician" on 23rd January, 1658.

> The saids magistrates and counsall did transact and agrie with James Frank, chirurgioune, in this manner to witt: he to returne againe to this burghe and mak his residance thairin for exercizing of his calling, and they bind them to pay to him yeirlie ane hundrethe merkis Scottis, the toune paying for the drogis and medicamentis."

And the average amount of the drug bill is set forth in a further minute of 25th July, 1663, which ordains the "thesaurer" to have

> Ane warrand for the soume of threttie eight pundis 4 shillings debursit bi him to James Frank for drogs, plaisters and utheris [medicamentis] bestowed bi him upon the curing of divers poor persons.

It is evident from this minute that Dr. Frank had already been resident in Glasgow, as he is to "returne againe to the city." He seems, however, to have been a restless, unsettled mortal, and in June, 1667, we read that

> The magistrates and counsell taking to their consideratione how that James Frank, their commoune chyrurgian, had desertit his charge and left the toun contrair his obleisment, . . . and seeing how necessar it is that ane uther be appoyntit to supplie that charge, thai have therfor made choyse of Johne Hall, chyrurgian, to have that place.

Hall had evidently made a little money, but, unlike our old friend, Thomas Myln, he did not put it all into real estate—although we find that he owned or tenanted lands at Garngad and Hartisfield—but he favoured "property," and on 10th June, 1669, we read that

> In answer to the supplicatioune given in bi Johne Hall, chyrurgian, grantis license to him to build ane piece of ane stone wall, betwixt theis buiths nerrest the Tolbuith, quhilk he hes laitly bought, and the gutter ther, for withholding the evil smell of the said gutter.

Like others of that easy-going age, Dr. Hall was not troubled with a public health conscience: but the point I am most interested in is this description of his property, as there is no possible doubt that this refers to the same property as the advertisement in the *Courant* for 1748, which speaks of the "haill of that laigh fore shop next to and on the north side of the Tolbooth of Glasgow, which belonged to the deceased John Hall, surgeon."

Now, at this time Manasses Lyall, the deacon convener, died, and Dr. Hall was elected to that office; but the honour was short-lived, as the council discovered that, "by the old laudable use and custom," the person who ought to have been elected was the immediate deacon convener before, and on 9th October, 1669, they therefore rescinded their act appointing Dr. Hall to the office, and elected John Miller to the position. However, the next extract shows that Dr. Hall had at last come into his kingdom. This is dated 30th September, 1673, and reads—

> In the leet presented by the Provost to Robert, Archbishop of Glasgow, he did nominat two of the merchant rank and Johnne Hall for the crafts to be the thrie baillies for the said year enshewing,

and that this refers to John Hall "of ours," so to speak, is attested by another minute [24th September, 1674], which

> Ordaines the thesaurer to have ane warrant for thrie score eightine punds 12/ Scotis payit to John Hall, Baillie, for drogs furnished bi him to poor people in the toun.

John Hall, bailie, probably the first medical magistrate, although we read that there was a John Hall, surgeon, and a John Hall, bailie, about 1550-1580, who were possibly the same person. In point of fact, when we remember that the council was really composed of the ruling families in the city—the old council electing the new council—we come across the same names constantly recurring, which are indications that these positions were often passed on from one generation to another. Be that as it may, I feel sure that Bailie John Hall, "chirurgian," would always conduct himself as a physician and a gentleman. He was a virile old man, and in 1685 we have other two references to him, one in August ordering payment to

> John Hall, elder, for dressing the late Argyle, Rumbold Thos. Archer, and one poor dutchman the tyme they were prisonees in the Tollbuith,

And in the same year he was re-appointed bailie as one of the crafts representatives. Although still in harness he had evidently resigned his appointment as "toune's physician" on his elevation to the magistracy, and in October, 1674, the magistrates made "choyse of John Robesoune, chirurgiane, to have that place as the toune's chyrurgian quhilk was last occupyed bi John Hall." In 1689 he was appointed along with the Dean of Guild "to be present to dispose of the seats in the churches to the burgesses and inhabitants," and nine years later there is probably the final minute—

> Sir John Houstoune of that ilk is now liveing in the burgh, and that it is needful that a seat in some church be provided for him and his family, the magistrates do therefor appoynt to him that seat in the Tron Church, lately possessed bi the umquhile John Hall, late Bailie.

This is presumably our old friend, and taking his age as 21 in 1633, the year in which we make his acquaintance, would give the probable date of birth as 1612—1612 till 1698—an old man 86 years old, a long and I think useful life, sixty-five years of which were spent in the pursuit of his calling. *R.I.P.*

Reverting back for a few moments, I desire to notice a petition presented to the magistrates on 13th September, 1679, by one Mr. Harie Marschell, complaining "that the chirurgians and fermacians had refused to admit him frie of their craft." The magistrates ordained intimation to be made to the chirgurgeons to see if they had anything to say on the matter, failing which they [the magistrates] make certification that the toun will grant him licence to sett up. Ten days later the case was discussed by the Deacon Convener and the deacons of the trades, who decided by a majority of votes that "the said Harie Marschall should be admitted frie with the said incorporation of chyrurgians as from 26th August last." They presented this finding to the visitor and masters of the said calling, but as they did not appear to defend the action of the surgeons the deacon convener granted to the said "Harie Marschall full power and libertie to sett up and exercise his calling."

Fully twelve years after this the Faculty appealed against this decision on the grounds that "Harie Marschall had not served his apprenticeship with a freeman or member of the facultie for five years," and on the 6th May, 1691, the former act in favour of Hary Marshall was set aside. This did not, however, hinder Mr. Marshall from being as busy as ever, as on 15th June, 1700, a petition was presented to the Provost by Mr. George Lockhart and Mr. Henry Marshall, chirurgeon, desiring him to convene the town council, the trades and merchants houses, in order to prepare a petition for presentation to Parliament—

> For the securitie of our religion, the suppressing of vice, and incouragement of pietie and virtue, and asserting the Company's right to their settlement in Caledonia in which this city is much interested.

I think this has reference to the ill-fated Darien scheme. He occupied a seat, as we learn from the accounts of the burgh, in the new church, *i.e.*, the Ramshorn. Several members of the profession worshipped there, Dr. Baird, Dr. Kennedy, Dr. Thos. Hamilton, and in the burgh accounts for 1711 there is this curious entry—

> *21st March.*—Putting up seat to the midwives in the New Kirk: 2 men 3 days, £4 0 0.

In 1700 this Harie Marshall is actually appointed visitor to the surgeons, and conducted the negotiations relative to disjoining the surgeons and barbers at that time. He was still in Glasgow in 1708, as in that year we find him arranging with a mason to "rebuild some shops near the cross, lately burned and ruinous."

I think I mentioned already that Dr. John Hall was succeeded in the "toune's physeanship" by Dr. Robesoune. He was also a member of the town council. In October, 1678, there is a minute which refers to "John Robesoune, thesaurer," and that it was the same person is evident from a minute of 24th May, 1679, which

> Ordains the thesaurer to have ane warrand for the soume of ane hundredth threttie ane pundis Scotis for drogs and medicaments furnished bi himself to poor people.

Dr. Robesoune did not hold the appointment long, as on 29th December, 167(7)?9—

> The Provest, baillies and counsell . . . taking to their consideratioune that there are many poor people who are not able to bestow upon themselfes expenssis for curing them of several diseases by procuring to them potions of phisick, and understanding the guid experience and qualificatioune of Dr. Mathew Birsban, doctour of phisick, they heirby nominatis and appoyntis the said Mr. Matthew Birsbane to be the toune's phisitian.

Dr. Brisbane was the son of the Rev. Matthew Brisbane, of Erskine, and came of an old Bishopton family. The next we hear of him is in 1682, when, "in answer to the desyre of Mr. Matthew Birsbane, doctour of medicine, grantis libertie to put a tomb or buriall place in the High Kirk yaird."

Next year Dr. Michael Wallace was elected and chosen to be "toun's phisitian" in place of Dr. Brisbane, but this does not mean that Dr. Brisbane had paid the last debt to nature, and that the tomb in the "High Kirk yaird" had an occupant, as in connection with the Renfrewshire witches we hear not only of Dr. Brisbane but also of another old acquaintance, Mr. Harry Marshall, "apothecaire in Glasgow."

This was an extraordinary case, where a girl, Christian Shaw, evidently the subject of hystero-epilepsy, accused certain persons of bewitching her. Dr. Brisbane, in a signed attestation, says that when he was brought to the girl on 31st December, 1696, at first sight she appeared so brisk in motion, so florid in colour, so cheerful, and in a way so healthful, that he could scarcely be persuaded she had need of a physician, but within ten minutes he found himself obliged to alter his thoughts, for she rose from her seat and advertised that she was instantly to be seized with a fit, and according whereunto he observed a considerable distension in her left hypochondré which in a trice falling she was forthwith taken with horrid convulsive motions and heavy groans. He was frequently with her and observed her narrowly, so that he was confident she had no visible correspondent to subminister hair, straw, coal, cinders, hay, and such trash to her. He saw her also, when free of fits, suddenly seized with numbness, and this he solemnly declares himself to have seen and handled, and were it not for the hay, straw, &c., he should not despair to reduce the other symptoms to their proper classes in the catalogue of human diseases.

At the trial Dr. Brisbane, being adduced upon oath, adhered to his former subscribed attestation, and deponed that, in his opinion, the things mentioned therein did not proceed from natural causes arising from the patient's body.

I do not know when he died, but as late as 20th October, 1755, there appeared an advertisement in the *Glasgow Journal* that "several sorts of household furniture of very good kinds would be sold at Dr. Brisbane's house in the Stockwell on Monday, 3rd Nov. next."

Treasurer Robiesoune had a son, John Robiesoune, younger, who was appointed "toun's chirurgian" on 7th January, 1687, although three years previously the council had decided to discontinue the official appointment, ordering that "any person who was unwell and deserved to be cured could apply to a magistrate who would recommend him to a physician for treatment."

Robiesoune, younger, however, died next year, and was succeeded by William Thomson. We come across Dr. Thomson once or twice. He is mentioned in 1704 in the dispute between the barbers and the surgeons, and in 1712 we find him seeking compensation from the corporation, because, in enlarging Gibson's Wynd, they had taken in a portion of ground which belonged to "umquhill John Miller" (to whom his children had succeeded as heirs). The result of his claim is not apparent, but I trust he was successful. He was a member of the Laigh or Tron Kirk, and was evidently the lessee of the "2^{d} termes at the trone and weigh-house," also of the "2^{d} termes payment at the fishmercat." The last we hear of Dr. William Thomson is in August, 1716, when he appears as an objector, being a heritor, to one George Brown using the ground contiguous to his tenement in the Trongate as a slaughter-house.

On a former occasion I gave you some examples of the quack advertisements which were common in old Glasgow periodicals. I desire just to add one or two more: they appeal to human credulity with all the force of their modern compeers. Whether it be Speediman's Stomach Pills: "One of the best remedies yet discovered for all complaints of the stomach and bowels. The virtues of these pills are so well known and will appear so clearly on triall that the pompous puffs and other mean, yet inciting methods—too often used—to recommend articles with false stories of surprising cures are rendered quite unnecessary." Or Dr. Hodson's Persian Restorative Drops at 10s. 6d. per bottle: "Young men, boys, ladies of weak nerves, and people who travel into warm climates are particularly recommended to an impartial trial of these certain cures." Spilsbury's Improved Drops, which seemed to cure anything: Rowley's Herb Snuff and Tobacco for weak eyes, deafness, and nervous complaints: Belton's famous British Oil, "which is an effectual remedy (under God) for many distempers incident to the human body;" then Andrew Gardner, at the "Golden Ball," a little above Bell's Wynd, sold the "famous annodyne necklace for breeding children's teeth."

In the *Glasgow Courant* for April, 1749, there appeared an advertisement, thus:

> The Gentlemen, Ladies, Clergy, and all of literature and distinction are invited to the first lecture on the art of preserving sight and the changes in the eye from affections of the mind, etc., by John Taylor, Esq., Doctor of Physic, occulist to His Majesty; Fellow of Several Colleges of Physicians. The whole will be introduced by a Panegyrick in praise of sight and concluded with an oration on the exellency of this undertaking.

There was, I may add, the trifling professional advertisement regarding 162 persons to whom sight had been restored. The last I intend to mention is this—rather a pompous introduction (*Mercury*, 17th June, 1784):

> By Authority! The public are hereby informed that Dr. Edward Green, of the City of Durham, is come to Glasgow. *N.B.*—The Dr. performs all operations on the following terms of no cure no pay.

In the will of Robert Urie, a printer in the city, who died in 1771, I came across quite a number of practitioners who were indebted to him:

John Muir, surgeon, . . .	who owed	£4	15	0
Dr. Robt. Marshall, . . .	,,	0	8	0
Dr. Peter Wright, . . .	,,	4	10	8
John Hardie, surgeon, . . .	,,	3	11	8
Jas. Parlane, ,, . . .	,,	2	3	0
Wm. Miller, surgeon in Saltcoats, .	,,	2	19	3

Those accounts might have been for books bought or for printing cards or bills—if the ordinary surgeon had such a thing as a printed bill then, which I much doubt. That our predecessors had their own difficulty with these same little bills, also that they realised the need of union and collective bargaining—blessed phrase—is plain, by a series of advertisements in the *Courier*. The first is on 29th October, 1792:

> The Physicians and Surgeons in Glasgow having experienced much inconvenience and loss from the long-delayed payment of their fees and accounts, and to remedy this as far as depends upon them, the surgeons have come to the unanimous resolution to give in their acts once a year, and the physicians expect, when there is no agreement for attendance throughout the year, to be paid for their trouble and advice upon their visits becoming no longer necessary.

Not only so, but there was evidently some attempt at concerted action, as at the same time the surgeons in Paisley and Dumbarton met and fixed—

1. Uniform prices for articles sold.
2. Uniform charges per visit.
3. Time at which visits had to be left.
4. That at proper intervals they shall meet and examine such accounts as have been too long due in their books and jointly take proper measures for the recovery thereof.

And now this finishes the superficial and somewhat scrappy survey of some of the conditions under which our remote predecessors conducted their professional duties. I have endeavoured to select certain portions from the mass of material garnered. No doubt those portions or items, when standing alone, convey little information of any value to us; but I ventured to think that a selection of what I considered essentials might be of interest to you, as affording material for thought, as indicating the status of our profession in the infant city, as showing that the practitioners of bye-gone Glasgow had their own problems to face, that they were willing to fight for the retention of their privileges even in connection with such a sordid affair as paying rates and taxes, as revealing the fact that they could take part in the public life of the burgh, and that at some time or another they found the need of closer professional co-operation and concerted action. To me these extracts really form the framework round which our imagination weaves a material body: and while I think that it is unprofitable to spend too much time on the past, still I am quite sure that now and again a retrospect is not altogether misspent time, even if the review of the past only enables us more clearly to see our way through what is happening to-day.

Obituary.

JAMES M'ILROY, M.B., C.M.GLASG.,
BALLYCASTLE, CO. ANTRIM, IRELAND.

WIDESPREAD regret was felt throughout North Antrim when it was learnt that on Sunday, 28th July, Dr. James M'Ilroy had passed away.

Born sixty-six years ago at Mallindobet, co. Antrim, he was early destined for the medical profession. After a distinguished career at Glasgow University, he graduated M.B., C.M., with commendation in 1867. Shortly after graduation he was appointed Medical Officer to the Castlequarter Dispensary District, and continued to hold this position until 1888, when a deputation from the Ballycastle Board of Guardians invited him to apply for the post of Medical Officer to the Ballycastle Dispensary District which had fallen vacant. He accepted the invitation, and became Medical Officer also to the Ballycastle Workhouse Infirmary and Fever Hospital. He held the posts of Medical Officer to the Royal Irish Constabulary and Post Office in Ballycastle and Armoy, and to the Rathlin Lighthouse. In January, 1911, he resigned his dispensary appointment, and in September his workhouse duties. His retirement was due to symptoms of spinal paralysis, the result of a carriage accident sustained some years ago while attending to his professional duties. During the few weeks preceding his death considerable improvement had set in, and hopes were entertained that he might yet be restored to a measure of good health. An unusually severe attack of cystitis, however, set in with involvement of the kidneys, and he died within a few hours of its onset.

Dr. M'Ilroy was a man of exceptional professional abilities, which, together with his striking appearance and charming personality, won for him universal respect and devotion. He was a skilful surgeon and his services were in demand throughout the length and breadth of the county. His services were given to the poor as willingly as to the rich. He was unfailing in his attention to duty, and his splendid physique rendered him almost immune to illness and fatigue.

His death has left a gap in the hearts of the people which it will be difficult, if not impossible, to fill.

Dr. M'Ilroy leaves a widow and four daughters, two of whom are members of the medical profession, and graduates of their father's old University.

JAMES MILLER, M.D. EDIN.

THE sudden death on 4th August of Dr. James Miller, of Hillhead, came as a surprise to his medical friends, few of whom knew that he had been ailing. He had been on holiday in Perthshire during July, and on his return to town had gone into a nursing home to undergo an operation. His progress after the operation had been quite satisfactory, and he was to have gone home in a day or two, when suddenly the end came.

Dr. Miller graduated M.B., C.M.Edin. in 1891, and M.D. in 1906. Coming to Glasgow from Manchester some five years ago, he took over the practice of Dr. Anderson Robertson. His attention was, however, specially directed to the tuberculin treatment of tuberculosis and to vaccine treatment of infectious diseases generally, and he had come to be recognised as a specialist in this department of work.

Quiet and unassuming in manner, Dr. Miller was known to a large number of his professional colleagues, and by them he will be much missed. He is survived by a widow, to whom we offer our sincere sympathy.

THOMAS KIRKWOOD, M.B., C.M. GLASG.,
NEWCASTLE-ON-TYNE.

ANOTHER Glasgow graduate has just passed away in the person of Dr. Thomas Kirkwood, of Newcastle-on-Tyne. Born in Dalry, Ayrshire, in 1850, Dr. Kirkwood was, as a young man, a certificated assistant in the Glasgow Highland Society's Schools. After two years of this work he gave it up and studied medicine at the University, where, in 1878, he graduated M.B., C.M. After graduation he practised for several years in Rutherglen. He then moved to Newcastle to succeed the late Dr. Scott, and for upwards of a quarter of a century he was engaged in practice in that town. He died suddenly and unexpectedly, after an operation. Deceased was a widower, and is survived by one son.

STUART MACBIRNIE, M.B., C.M. GLASG.
MELBOURNE.

WE regret to announce the death of Dr. Stuart MacBirnie, which occurred in May last. Dr. MacBirnie studied medicine in the University of Glasgow, and graduated M.B., C.M. in 1890. Very shortly thereafter he proceeded to Melbourne, where he was at the time of his death.

CURRENT TOPICS.

APPOINTMENTS.—Alexander MacPhail, M.B., C.M. Glasg. (1894), F.R.F.P.S., has been appointed Lecturer on Anatomy at St. Bartholomew's Hospital in succession to Dr. Christopher Addison, M.P. For the last five years Dr. MacPhail has held the Lectureship in Anatomy at Charing Cross Hospital Medical School.

Archibald Shaw, M.D. Glasg. (M.B., C.M., 1890), has been appointed Certifying Factory Surgeon for the St. Austell District, co. Cornwall.

SIR J. D. HOOKER: UNIVERSITY COMMEMORATION DAY ORATION.[1]—It is not many months since we noticed the death of Sir J. D. Hooker, and it seems fitting that, on the occasion of the recent Commemoration Day, Professor Bower should have made the distinguished botanist and his work the subject of his oration.

As Professor Bower says, Hooker's life "was one of action throughout," and it is difficult to condense into something under sixty minutes of speech an appreciation of "a strenuous life of ninety-four years." And that it was strenuous is easily understood when we are told that the list of his published works extends from 1837 to 1911—a period of seventy-four years!

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[1] Published by James Maclehose & Sons.

Born in Suffolk in 1817, he was 4 years of age when he accompanied his father, Sir William Hooker, to Glasgow. Graduating M.D.Glasg. in 1839, he was the same year gazetted to the *Erebus* as assistant-surgeon and botanist, and in her he proceeded in Sir James Clark Ross's expedition to the Antarctic. After leaving Glasgow in 1839, he seems never again to have resided here. Before his return from the Antarctic in 1843 his father had removed to Kew. He was certainly an alumnus of Glasgow, but, in so far as his later life is concerned, Glasgow's claim upon him is slender. "But," as Professor Bower truly says, "in every life much depends on the earlier years." In order truly to estimate this in Hooker's case, the orator recalls the circumstances under which he lived here, and goes into the question of botanical enterprise and opportunity in Glasgow at that time.

He describes the formation and development of the Botanic Garden at Sandyford, and how young Hooker grew up in the knowledge of plants, as a natural consequence of his surroundings, and without the effort entailed by study in later years. While a student, two years before graduation, he published his first paper. This was a description of three new species of mosses. Although he left Glasgow, at the age of 22, never to return as a resident, his relations with successive occupants of the Chair of Botany have been close, especially with Walker-Arnott and Bayley Balfour. Again, in 1881, when the Botanic Garden was reconstituted, it was on his suggestion that the Kibble Palace was converted into a "temperate" house, containing now a group of tree ferns which is probably the finest in the country.

Hooker attended the ninth jubilee of the University in 1901, and gave an address on the opening of the new Botanical building. And one of his last acts had its remote connection with Glasgow, for in 1911 he published the description of a new species of the genus *Impatiens*, brought from the Malay Peninsula by Professor Gwynne-Vaughan, at that time a member of the University staff.

Having thus outlined Hooker's connection with Glasgow, Professor Bower goes on to contemplate him as a traveller and geographer. He describes the various expeditions in which Hooker took part. "At one time or another he had touched upon every great Continental area of the earth's surface. . . . Observation at first hand was the foundation upon which he chiefly worked." His services to geology are described. "This geological record is not an extensive one. But the quality and rapidity of the work showed that it was the time and opportunity and not the faculties that were wanting. Moreover, it is worthy of remark that the problems he handled were all nascent at the time he worked upon them." His work as a morphologist showed that Hooker pursued careful microscopic analysis side by side with systematic and floristic work. As an administrator his hands were very full during his thirty years at Kew. But, while burdened with the directorship there, he was called to the President's chair of the Royal Society, and this position he filled from 1873 to 1878. Seven years later he demitted office as Director of Kew, and for over a quarter of a century after retirement he devoted the energy of his old age to peculiarly fruitful scientific work.

That he was a scientific systematist is shown by many works. Of these, Professor Bower draws attention to his four greatest—*The Antarctic Flora*, *The Flora of British India*, *The Genera Plantarum*, and the *Kew Index*—and manages to convey to the reader some idea of the magnitude of the tasks to which Hooker applied himself. But Hooker, although a systematist, saw farther than his predecessors. "He was not satisfied with the mere record of species as they were. He sought to penetrate the mystery of the origin of species. . . . He was a *Philosophical Biologist* in the new and nascent sense of the middle period of the nineteenth century." In this connection Professor Bower refers to Hooker, Darwin, and Lyell, as "the great group of the protagonists of evolution." Hooker's fame as a philosophical biologist rests on a series of essays and addresses. Of these, special mention is made of—among others—the introductory essay to the *Flora Tasmania*, dealing with the Antarctic flora as a whole. From his wide systematic and geographical experience he drew for himself support for the "hypothesis that species are derivative and mutable."

Passing to the conclusion of his oration, Professor Bower refers to Kelvin, Lister, and Hooker as the "great triumvirate of Glasgow." The work of all three was essentially constructive rather than critical. "There is more real vitality in a university whose title to honour is, like ours, founded on constructive and positive results, than in the most critical academy that the world can show. To encourage and preserve that vitality the work of Kelvin, of Lister, and of Hooker should be kept before the minds of every successive generation of students."

As we have indicated above, the *Oration* has been published in pamphlet form. It is well worth reading as a stimulating account of the life and work of one of *Alma Mater's* great sons.

UNIVERSITY OF LIVERPOOL: HONORARY DEGREES.—A special convocation of the University of Liverpool was held on Friday, 26th July, for the conferment of honorary degrees. Among the honorary graduates were Sir James Barr, President of the British Medical Association, and Sir William Macewen, both of whom received the degree of LL.D.

In presenting Sir James Barr, Professor Benjamin Moore said—

"On behalf of the Senate and Council I present Sir James Barr, President of the British Medical Association, for admission to the Degree of Doctor of Laws of this University.

"Sir James Barr is an Irishman, who obtained his training in medical science at a Scottish university by the banks of the Clyde, and since then he has built up a reputation here in Liverpool which has travelled out as widely over the world as the commerce of our port.

"His more immediate colleagues in the Royal Infirmary, the School of Medicine of this University, and the medical profession of Liverpool and the surrounding district, appreciate his talents as a leader, and are well aware of his ripe knowledge as a physician, his unsurpassed skill in diagnosis, and that exquisite power of observation of the individual case, which have made him a tower of strength as a consultant in the treatment of disease.

"His scientific writings in therapeutics, medicine, and sociology, with their remarkable and powerful directness of expression, and wit of conception, are well known in the world of medical science.

"To-day we rejoice chiefly in the possession of Sir James Barr as a great public-spirited citizen, who from a never-failing store of energy willingly draws time and power for the best of social services to those great causes of national health and physical fitness which at present exercise so much the public mind.

"Evidence of this wide aspect of the life-work of Sir James Barr has been forthcoming during the present week in which he has presided so brilliantly over the most historic meeting which the British Medical Association has ever held.

"It has been a fitting consummation to many long years of work for that body, as Secretary and, later, as President of the Lancashire and Cheshire Branch, as Representative in the Council, and as reader of the Address in Medicine at the Toronto meeting, that Sir James Barr should preside over this meeting of the medical profession in Liverpool at such a momentous time as the present."

In presenting Sir William Macewen, Mr. Monsarrat said—

"In presenting Sir William Macewen to you for the Honorary Degree of Doctor of Laws it is our desire to honour one of the greatest of the world's surgeons. The enrichment of a science by contributions of high importance and of an art by methods which become part of its universal practice is a dual service which few men can render. This service Sir William Macewen has rendered to surgery. To him is due much of the present-day treatment of deformity; his researches and their brilliant application founded and established the surgery of the brain. We rejoice to recognise that the same genius which opened these new chapters in the book of surgery is still adding to its fascinating and important pages. In his work we see that combination of originality of thought with power of application which can not only discover a new land but can make of it an ordered state. British surgery has no more distinguished a representative than the Regius Professor of Surgery in the University of Glasgow, and we desire to enrich the records of our University by enrolling him as an honorary graduate."

BI-CENTENARY OF TRINITY COLLEGE, DUBLIN.—The celebrations connected with the bi-centenary of the Medical School of Trinity College, Dublin, were held on 5th and 6th July.

On the morning of the 5th the Provost, Dr. Traill, unveiled a memorial stone to Dr. John Stearne, the founder of the College of Physicians in Ireland. The tablet, which was originally placed over the burial place of Stearne after his death in 1669, has been erected on the right hand side of the entrance to the College Chapel, and is in a frame of black marble. After the unveiling, Dr. Mahaffy, the official historian of the College, delivered an oration on Stearne's life and work. In the afternoon the Chancellor, Lord Iveagh, and the Provost received congratulatory addresses from the representatives of British and foreign universities.

On the 6th a large medallion of the late Professor J. D. Cunningham was unveiled in the anatomical room of the school, after which a procession was formed in the grounds and proceeded to the Royal College of Physicians. The procession was received by the President of the College, Sir Hawtrey Benson. The Honorary Fellowship of the College was conferred on the following, amongst others:—Sir David M'Vail, Glasgow, and Dr. G. A. Gibson, Edinburgh. In the afternoon the company assembled in the Examination Hall of Trinity College, when honorary degrees were conferred on delegates. The following members of the professoriate of Glasgow received the degree of Sc.D.:—Sir William Macewen, Dr. Robert Muir, and Mr. F. O. Bower.

At the time of the celebrations an article appeared in the *Glasgow Herald* from which it would appear that Scotsmen and men of Scottish descent have been prominently associated with Trinity College. The chief moving spirit in the foundation (in 1591) of Trinity College was Luke Challoner, a Cambridge man. He was, however, ably assisted by the masters of the Dublin Grammar School. These were James Fullerton and James Hamilton, two Scotsmen who are believed to have studied at St. Andrews, and who shared with Challoner the honour of being the first Fellows. Little more than a century later the Medical School was instituted, and was due primarily to the generosity of a Scotsman, Sir Patrick Dun. One of its early teachers was George Cleghorn, a Scot, and later came the celebrated anatomist, James Macartney, who was an Ulster Scot, while in more recent years there was the late Professor Cunningham, son of Principal Cunningham, of St. Andrews.

In the article referred to there is much interesting matter regarding both Cleghorn and Macartney, and for details regarding the latter the reader is referred to the memoir by Professor Alexander MacAlister, of Cambridge.

CENSUS, 1911: REPORT ON GLASGOW AND ITS MUNICIPAL WARDS.—In our issue for May, 1912 (p. 358), we referred to the Registrar-General's report on the census of Glasgow (1911). Dr. A. K. Chalmers has just issued a report on Glasgow and its municipal wards, the details having been obtained from that of the Registrar-General. In his preface, Dr. Chalmers draws attention to two features of the 1911 census. Contrary to past experience, there has been a slight but significant diminution in the size of the average house, while the average number of persons occupying each house of one apartment has slightly increased. Both of these facts, Dr. Chalmers considers, demand attention in the work of social reform.

In the introduction to this report, mention is made of the new method employed by the Registrar-General of stating the facts obtained from the census. By this method the facts relative to each city and county are tabulated and published separately. The advantage of the method is that it places at an early date in the hands of local authorities and others a large amount of statistical and social information, which otherwise would not be available for a considerable time.

One of the most striking facts reported on is the difference between census increase and "natural" increase of population. A table is given comparing the figures for five decades—1861 to 1911. In the five decades thus compared, Glasgow retained the natural increase of its population in only two of them, namely, 1861-1871 and 1891-1901; while the loss during the decade 1901-1911 has much exceeded anything which occurred in the decades 1871-1881 or 1881-1891. The decrease is not to be accounted for by foreign emigration, but by the displacement of population from the centre of the city. Thus, the suburban districts, which were added to the city in 1891, showed rates of growth in the decade which followed ranging from 28 and 30 per cent to 76 and 100 per cent. In the latter half of the next decade the decentralising movement also began to affect those portions of the city which had been added in 1891. The comparative increase during the decade was in Glasgow 1·1 per cent; in the burghs, 17·7 per cent; and in the landward areas of the parishes in which the burghs are situated, 64·5 per cent. The actual and natural increases of population in these different areas are graphically shown in a chart.

The report then goes into the questions of acreage and density, sex and age distribution and conjugal conditions, and housing. Concerning this last, we have already referred to Dr. Chalmers' remarks in his preface.

The information contained in the report is not only invaluable to the public health department, but it is of the greatest interest to all citizens concerned with the affairs of their city.

THE DAILY TUB.—Amidst the variety of interesting questions discussed at the sectional meetings of the Royal Sanitary Institute Congress at York was an address by Dr. Quine, of Manchester, on the degree of personal cleanliness amongst the people of the United Kingdom, in which the results of an elaborate inquiry as to the use of the bath were presented; and the conclusion set forth was that the requisites of the toilet generally in use in this country are unsuitable and inadequate.

Dr. R. H. Quine's interesting and amusing paper was entitled "A few notes on the washing habits and appliances of the English people." The basin, he said, was the sole washing vessel in daily use by approximately 40,000,000 of people. "We English people," he said, "are not nearly so clean as we are supposed to be." The bedroom basin was evidently asked to do more than it was able efficiently to perform, and reform there was most urgently indicated. The bath was not nearly so useful or so popular as seemed to be generally supposed. In some of the hotels not more than 1 per cent of the guests used the bath on any day; in others the percentage was stated to be as high as 10, and in a very few cases much higher, but in each instance this was where many bedrooms had bathrooms attached, and the use of the bathroom was assumed to have taken place. Ninety-five per cent of hotel guests did not use the bath on any day, but did all the washing they attempted as best they might entirely in the bedroom with the basin. Cold baths were used almost exclusively by men. The order of frequency in which the different classes of persons took baths was also very interesting. "Those who have the daily bath habit seem to belong principally to the type of public school men, and are mostly the young and early middle-aged. As years increase the daily bath habit seems to decline. Military men came first, with racing men a good second. No evidence was discovered which would lead one to conclude that the bathing accommodation was unduly taxed whenever a congress of medical men or sanitarians was held in any town. Nor was there sufficient evidence forthcoming to form any general opinion as to the bathing habits of the clergy. Their average did not seem to be high, but no doubt the cost would in their case be an important factor. Other professional men were difficult to distinguish. Commercial men do not appear to have acquired the habit of the daily bath."

In nationalities the following appeared to be the order of frequency of bathing:—Scotsmen, Englishmen, Irishmen, American women, English women, American men, Frenchmen.

and Germans. In seemed to be agreed, he said, that American women were less bashful than English women, and were not so afraid to pass along corridors to the bathroom, while English women had very strong objections to doing so, and that this accounts for the fact that American women made greater use of the bathroom. They were also apparently better provided with elaborate dressing-gowns than were the English women. He found no evidence that the comparative infrequency of bathing by American men was due to bashfulness. The sanitary reform which is most urgently required in this country was increased facilities for personal and domestic cleanliness in the homes of the people by improved appliances.

Dr. Quine's breezy and refreshing paper was punctuated by the laughter of his audience.

We agree with Dr. Quine, who, by the way, is an old Glasgow student, as to the necessity for "increased facilities," but we think that there is also urgent need for the education of the masses in the use of the bath. Its presence in the dwelling does not necessarily mean that it is properly used. We have seen in a modern dwelling, with the latest sanitary appliances, the bathroom apparently used as a lumber room, the bath itself making a convenient receptacle for various articles, including a perambulator; and a medical colleague told us not more than a year or two ago that he had seen the bath used for the storage of coal! We are optimistic enough to believe that daily bathing is on the increase, and that at no very distant date the non-bather, or his not far-out cousin the "Saturday night" man, will cease to exist. Meanwhile, the apostles of the tub must keep pegging away at both the builder and the tenant.

BRITISH DENTAL ASSOCIATION CONFERENCE.—The thirty-second annual general meeting of the British Dental Association was held last month in Glasgow, when about 350 members were present. By permission of the University authorities. the meetings took place in the University buildings.

Professor T. H. Bryce, in the unavoidable absence of Principal Sir Donald MacAlister, received the members of the Association, and, in extending a welcome to them, referred to preventive dentistry. Keeping in view the relation of dental conditions to diseased or disordered states of the body, he held that to be properly equipped for the elucidation of such questions it was advisable to have a complete training in medicine as a preliminary to dental work.

The President of the Association (Mr. Rees Price) then delivered his inaugural address, in the course of which he referred to the important question of preventive dental service, and said that nothing had better justified the existence of the Association than its efforts to create a sound public opinion upon the vital matter of such service for all elementary school children. He had been struck, on reading over reports of school medical officers, with their unanimity with regard to two important points. These were the terrible ignorance and indifference of the parents with regard to cleanliness of the teeth, and the recognition of the dependence of many unhealthy conditions of the mouth on the dental sepsis. But such recognition was of no use unless it were followed up by treatment, and at present it was apparently not within the powers of the school boards in Scotland to provide treatment. The Education Act (Scotland) was defective, and the Education Committee of the Privy Council (Scotland) was unable to give a definite pronouncement. The Glasgow School Board had decided that the only way out of the *impasse* was to raise a friendly action in the Court of Session, so that the construction of the Act might be legally determined. Should the Court decide against the provision for medical treatment, the Act would have to be amended.

There were many papers read, and it was noticeable how frequent were the references to prevention of dental disease. Politics were not altogether neglected, and the bearing of National Insurance on the treatment of diseases of the teeth was referred to by more than one speaker. Should the treatment of these diseases come to be arranged for, the question of the unregistered dental practitioner would probably be settled.

The Entertainments Committee were not neglectful of the guests. Receptions were held by the Corporation and by the Royal Faculty of Physicians and Surgeons, and, among other outings, the members enjoyed a cruise on the Firth.

A very useful *Handbook* for the use of the visitors had been compiled. In addition to the programme of work, it contained much interesting and useful information regarding the University, Dental School, Royal Faculty of Physicians and Surgeons, guide to principal tramcar routes, &c.

It is twenty-five years since the Association meeting was held in Glasgow, and during the interval dentistry has made enormous strides. Quite apart from this fact, however, the prominence given by the press to the transactions of the Association cannot fail to benefit the public. Their attention has been drawn in no uncertain way to a matter of vital importance, and in a large city like Glasgow, teeming with school children, we have reason to congratulate ourselves that such a congress has been held in our midst.

R.A.M.C. (T.F.): Glasgow Units.—The appointment of Major A. G. Hay, M.D., to command the 3rd Scottish General Hospital, and his promotion to the rank of Lieutenant-Colonel, has just been gazetted. Lieutenant-Colonel Hay was appointed Major (Registrar) in the 3rd Scottish Hospital in 1908, on his being transferred to the Territorial Force from the Dumbartonshire Rifle Volunteers, in which regiment he held the rank of Surgeon-Captain.

The vacancy in the command of the Hospital arose through Colonel D. J. Mackintosh, M.V.O., having been appointed Assistant Director of Medical Services in the Lowland Division.

Cerebral Decompression.—Within the past few years the subject of cerebral decompression has engaged the attention of surgeons; and, judging by the frequency with which we hear the expression "decompression operation," it would appear that the procedure of opening the skull in order to diminish intracranial tension has now come to occupy a firmly-established place in the surgery of the brain.

Mr. C. A. Ballance, of St. Thomas's Hospital, recently delivered an address on this subject to the Bath and Bristol Branch of the British Medical Association. This address, which has just been published in pamphlet form,[1] is extremely interesting. The author begins by drawing attention to the methods of decompression adopted by Nature. Of these, the most frequently seen is the gaping of the sutures in hydrocephalus. A less common, but not less efficient, occurrence is the absorption of bone by local pressure, and this is most often seen in children with cerebellar tumour.

The methods of diminishing intracranial pressure, adopted by the surgeon, are various. Sometimes the cerebro-spinal fluid is drawn off in moderate quantity by lumbar puncture; in other cases continuous drainage of the ventricle is effected either into another cavity or externally. Again, removal of bone and dura may be carried out. Through the opening free drainage of fluid is established, or a hernia cerebri is allowed to occur. In this way the general pressure can be relieved, even if the exciting cause cannot be removed. It has to be remembered that the cause of increased intracranial pressure is an increase in the amount of cerebro-spinal fluid. This acts not by local but by *general* pressure, and it is this general pressure which is relieved by craniectomy.

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[1] Macmillan & Co., Ltd., 1912.

As Mr. Ballance points out, decompression may be performed for injury or for disease. In cases of injury we have first of all to consider the condition of extradural hæmorrhage. This usually occurs from injury of the middle meningeal artery. Its occurrence has long been known, and its treatment is classical. Intradural hæmorrhage, however, is also of frequent occurrence. It is met with in the newly born, is caused by pressure during birth, and if not immediately fatal, may subsequently cause cerebral palsy, epilepsy, &c. In later life, such hæmorrhage may occur in fracture of the base of the skull, and Mr. Ballance gives notes of a case in which he operated within a few hours of the accident, and in which the patient ultimately made a good recovery. Apart from hæmorrhage, increase of pressure occurs also in depressed and punctured fractures of the vault; but in these conditions the "decompression" by operation is hardly new. As remote effects, blood cysts and so-called false membranes resulting from hæmorrhage may form, and give rise to signs of intermittent pressure.

Passing to consider decompression for disease, apoplexy comes under notice. The author thinks that operation is clearly indicated in certain cases of acute apoplexy, and advises incision at the summit of a convolution, "behind the fissure of Rolando and above the fissure of Sylvius." Hydrocephalus and meningitis are then passed under review. The author's opinion regarding tuberculous and suppurative meningitis is that "we are no longer justified in regarding the patients as hopelessly lost, and in remaining with folded hands." He admits, however, that, so far, the results of surgical intervention have not been brilliant.

In cases of brain tumour, "the presence of optic neuritis demands immediate operation." Decompression in the cerebellar region usually allows of a free escape of cerebro-spinal fluid, rapidly relieving the congestion of the optic discs.

There are other points in the address to which we might direct attention. Those we have mentioned above will probably be sufficient to stimulate our readers to procure Mr. Ballance's pamphlet and peruse it for themselves.

MEDICAL EDUCATION IN EUROPE.—In June, 1910, the

Carnegie Foundation for the Advancement of Teaching published a report on medical education in the United States and Canada. On the suggestion of the teachers of medicine in America, and the medical profession itself, a report was directed by the Foundation to be made on medical education in the German Empire, Austria, France, England, and Scotland. The task was entrusted to Mr. Abraham Flexner, the author of the previous report, and has now been completed.

The present report fills a volume of considerable size, and is intended to give, "not a detailed account of the separate schools existing in Germany, France, and England, but rather a picture of contemporary medical education in these countries." It is based upon an examination of representative medical schools and institutions in each country, and is, in places, frankly critical. Originally undertaken in the desire to improve the conditions at present existing in the United States and in Canada, the report has been written "from the standpoint of the advancement of medical science throughout the world."

The report abounds in interesting reading, and we hope in a future issue to give some account of its contents.

SYNTHETIC INDIA-RUBBER.—For some years past the commercial world has been closely interested in rubber, and "rubbers" bulked largely in the mental horizon of investors. The announcement that the manufacture of synthetic rubber has at length been accomplished has, therefore, created considerable excitement, evidenced in one way by head-lines in the daily press.

Many eminent scientists have been for the past three years engaged on the problem, and the promised success of the process from the commercial point of view is said to rest largely on a discovery by one of these, Professor Fernbach, of the Pasteur Institute. For the purpose of producing synthetic rubber it was necessary to be able to procure cheaply and in large quantity fusel oil. Professor Fernbach, after considerable research, found a bacterium which, when added to starch, sets up a ferment which produces relatively enormous quantities of fusel oil and acetone. One result is that fusel oil can be produced at about £35 a ton, as compared with £140, its former price.

The fusel oil having been obtained, it is treated with HCl, producing mono-chlor-hydrocarbons. These are boiled and treated with Cl, and di-chlor-hydrocarbons are formed. The di-chlor-hydrocarbons are vapourised and passed over hot lime, and yield 60 per cent isoprene and butadiene. These substances are allowed to stand in contact with metallic Na, and the liquid, after a period ranging from a few hours to a few weeks, changes into solid raw rubber. This last process was discovered and has been patented by Dr. F. E. Matthews.

This synthetic rubber is almost identical, chemically, with natural latex. Its quality is not yet up to the best of the natural rubbers, but it is hoped that this is merely a matter of time and experiment. The Anglo-French chemists hope to place the new rubber on the market at 2s. 6d. per lb.

As regards the commercial future of the process, opinions are divided, but from the purely scientific standpoint we agree that the discovery may fairly be entitled "A romance of chemistry."

MR. H. K. LEWIS announces for early publication new editions of *Mind and Its Disorders*, by Dr. W. H. B. Stoddart of the Bethlem Royal Hospital: *Clinical Bacteriology and Hæmatology for Practitioners*, by Dr. W. d'Este Emery; and *Materia Medica and Pharmacy for Medical Students*, by Mr. R. R. Bennett, Pharmacist to University College Hospital. Dr. Stoddart has added two chapters dealing with the study of the subconscious by psycho-analytic methods, and has revised the work throughout as required by the amount of skilled research in the field of psychiatry which has been done since the publication of the first edition little more than three years ago. Dr. Emery's book is the fourth edition of his popular handbook, and has been carefully revised throughout. Mr. Bennett's manual has also been thoroughly revised for its second edition.

The same firm has in hand a new edition (the sixth) of Dr. Lewis Jones' *Medical Electricity*. This will contain several new illustrations, and will be brought thoroughly up to date. A new book on *Ionisation* is in preparation by the same author, and will be issued at an early date. Mention may be made of new editions just issued of three well-known books:—*The Diseases of Women*, by Dr. Lewers (with thirteen coloured plates new in this, the seventh, edition); *The Elements of Practical Medicine*, by Dr. Carter, of Birmingham (tenth edition); and the fifteenth of *The Extra Pharmacopœia*, by Drs. Martindale and Westcott. This edition is considerably enlarged, and the matter arranged in two volumes for convenience of reference. Copies of these three books have been received, and will be given more extended notice in later issues.

MEETINGS OF SOCIETIES.

MEDICO-CHIRURGICAL SOCIETY OF GLASGOW.

Session 1911-1912.

Meeting X.—15th March, 1912.

The President, Dr. A. Freeland Fergus, *in the Chair.*

The meeting was held in the Pathological Institute of the Royal Infirmary, where the following communications were made and demonstrations given:—

I.—CASE OF INSULAR SCLEROSIS.

By Dr. T. K. Monro and Dr. Madge E. Robertson.

Mrs. G., æt. 48 years, housewife, was admitted to the Royal Infirmary on 14th June, 1911. There was a history of retention of urine for a short time, four years before, and of incontinence of urine two years before. In June, 1910, she was suddenly seized with paresis and numbness in the right upper limb, and about the same time there was slight loss of power in both feet, with unsteadiness in walking. After a week these symptoms passed away, and she remained healthy till the end of August of the same year, when the feet and legs became swollen for about three days. After this she again enjoyed good health till 15th April, 1911, when the left arm became quite powerless and numb, and the legs were similarly affected, though not so much as to prevent her walking. Recovery took place after three weeks. Two weeks before admission, the lower limbs began to feel heavy, and she had numbness in the upper limbs. When she rose on 10th June, four days before admission, she found that her hands and legs were weak, and later on in the day she became unable to walk. Other symptoms which developed about the same time were—numbness and a feeling of constriction round the body from about the level of the fourth rib up to the root of the neck, difficulty in swallowing, and impairment of voice.

Nothing of importance was ascertained with regard to her past history except that she had influenza several times, and sore throat also several times in recent years.

When she was admitted there was retention of urine, the speech was slurring, cerebration slow, the tongue tremulous. The right pupil was smaller than the left, but both reacted to light. There was no strabismus or nystagmus. She had difficulty in swallowing. The loss of power in the legs was complete, and the arms considerable. The right hand was weaker than the left. Sensation (touch, pain, and temperature) was lost up to about the level of the first intercostal space, and impaired up to the malar bones. At the back of the trunk the anæsthesia extended up to about the lower angle of the scapula. The knee-jerks were active, especially in the right side. The action of the diaphragm was not entirely lost. The heart and lungs were healthy. The liver and spleen were not enlarged. The urine contained a faint trace of albumin. The fundi were normal. A petechial eruption was present on the trunk and abundantly on the legs.

On 16th June it was noted that the plantar reflex was flexor on the left side, and extensor on the right side. As hours passed, the patient became more drowsy, delirium and coma set in, the temperature continued to rise, and death took place on 17th June.

The following is the report of the *post-mortem* examination by Dr. M. E. Robertson:—

At the *post-mortem* some faint reddish-grey unduly vascular looking areas were observed about the middle of the corona radiata on the right side.

No macroscopic lesions were made out in the pons, medulla, or cord, though the latter felt unduly soft. Sections made from the corona radiata of the right side, and stained by the Weigert-Pal method, showed a very definitely demarcated patch of sclerosis about 1 inch by ¾ inch in size. Sclerotic patches, some of them of considerable size, were also observed in the lower part of the pons and the cervical and upper dorsal cord. No sclerotic areas were found in the mid-dorsal or lumbar regions, and, as is usual, there were no tract degenerations. Sections stained with hæmalum and eosin showed some areas of softening both in the brain and cord, with lymphocytic accumulation round some of the vessels.

Sections stained with toluidin blue showed the nerve cells in the various regions examined to be remarkably healthy looking, considering the amount of degeneration observed in the other nervous elements.

II.—THE ASCOLI-IZAR REACTION IN CANCER, AND TRAUBE'S STALAGMOMETER.

By Dr. Eliz. T. Fraser (Beit Research Fellow).

Dr. Fraser gave a demonstration of the Ascoli-Izar or Meiostagmin reaction as employed in the diagnosis of malignant tumours. She discussed the difficulties in the preparation of the antigen, showed how to use the Traube stalagmometer, and quoted statistics of the work done up to the present. She regretted that Dr. Campbell and she could give no personal opinion of the practical value of the method, as the work which they had so far completed was insufficient to warrant any conclusions.

III.—PRIMARY CARCINOMA ARISING FROM THE BRONCHUS IN A TUBERCULAR LUNG.

By Dr. Milne M'Intyre.

Dr. M'Intyre's paper appeared as an original article in our issue for August, 1912, at p. 95.

IV.—BOAS' MODIFICATION OF THE WASSERMANN REACTION IN SYPHILIS.

By Dr. J. Arch. Campbell.

Dr. Campbell gave a demonstration of the Boas' method of performing the Wassermann reaction, and strongly recommended it on account of its extreme delicacy and extraordinary accuracy. He pointed out that the effect of treatment can be carefully watched by means of this method, in which a number of different serum quantities (·2, ·1, ·05, ·02, ·01 of a c.cm.) are employed, thus permitting the measurement of the degree in which a patient is still syphilitic. Before mercurial or salvarsan treatment can be discontinued a negative reaction must be given with all those serum quantities. Dr. Campbell showed a series of completed Wassermann-Boas experiments on sera of patients in the various stages of syphilis, treated and untreated, and, for comparison, a series of negative cases. A further series was shown to demonstrate the value of the method in the diagnosis of clinically obscure conditions.

V.—CYSTS OF THE POSTERIOR ROOT GANGLIA (THREE CASES).

By Dr. Madge E. Robertson.

In two instances these cysts occurred in patients suffering from leukæmia; in the third instance the condition was found in a patient who had a cerebral tumour.

No connection could be traced between any symptoms observed and the condition of the ganglia.

Several of the ganglia were affected in each case: the cysts were situated always at the spinal end of the ganglia, and in two instances were as large as peas.

Some of the cysts, especially the larger ones, were very well defined, tense, and thin-walled, the wall being composed of fibrous tissue and degenerate-looking nerve fibres, and having embedded in it one or two flattened nerve cells.

Some of the ganglia in which as yet no definite cysts were present showed areas of œdematous, rather opened out, and degenerate-looking tissue, and gave the impression of being in an early stage of cyst formation. Various degrees of change between this and the very definite large cysts described could be made out in different ganglia.

In one case a small area of degeneration was observed in the lumbar cord in the column of Burdach on one side, and another in the antero-lateral basis bundle of one side in the dorsal cord.

No cord degenerations were made out in the other cases.

The nerve cells in the intact portions of the ganglia seemed comparatively healthy.

VI.—By Professor John H. Teacher—Micro-projection demonstration of diseases of the aorta and arteries.

VII.—By Dr. J. R. Riddell and Dr. K. M. Chapman—Skiagrams illustrating various diseases and injuries.

VIII.—By Dr. A. M. Kennedy—(*a*) Photo-micrographs illustrating the A.-V. node and bundle, in health and disease; (*b*) photo-micrographs showing the lesions of myocarditis.

IX.—By Dr. James Adams—Specimens of gangrene of the uterus and appendages, due to torsion.

X.—By Mr. Donald Duff—Specimens of ectopic gestation in a rudimentary cornu of the uterus.

XI.—By Dr. M. E. Robertson—Microscopic sections of the brain and meninges in tuberose sclerosis.

XII.—By Dr. A. G. Banks—A specimen of ovarian pregnancy.

Meeting XI.—12th April, 1912.

The Vice-President, Dr. John Brownlee, *in the Chair.*

I.—CASE OF ADENOSARCOMA OF THE KIDNEY.

Shown by Dr. R. Speirs Fullarton for Dr. Jas. Nicoll.
Pathological Report by Dr. J. Shaw Dunn.

The patient was a boy, J. M'Q., aged 9½ years, who was demonstrated before the Society by Dr. Fullarton on 19th January last, and was shortly afterwards admitted to Dr. Nicoll's wards in the Western Infirmary for operation.

On 1st February a cystoscopic examination was made by Dr. Rankine, which showed that the right ureteral orifice lay in an injected patch on an elevated papilla, while at the base of the bladder behind the trigone was a curious worm-like piece of tissue apparently growing from the bladder wall, and more injected than the tissue around it.

On 13th February the tumour was excised by Dr. Nicoll.

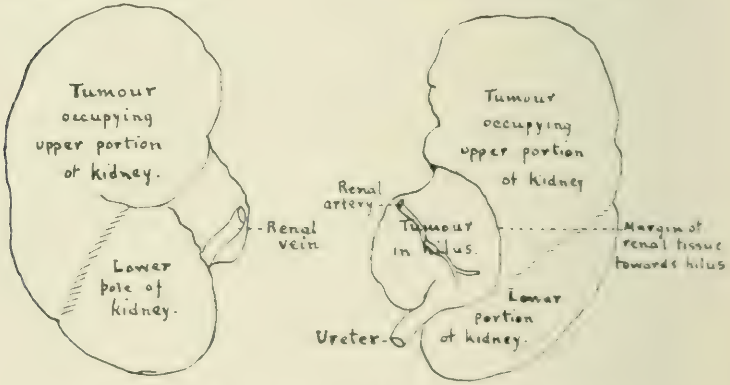
An incision was made through the right linea semilunaris, with transverse cut extending back from its centre. The left kidney was explored and found healthy. In the affected kidney, kidney substance and the ureter were found at the lower pole of the tumour. The end of the ureter was drawn out, and ligatured through the lower angle of the wound. A quantity of gauze packing was placed in the site of the tumour in a shield of gauze. The wound was closed roughly with silkworm-gut stitches. The child stood the operation well, with very little shock.

On 17th February the silkworm-gut stitches and packing were removed, and the wound closed in the ordinary way in layers. The end of the ureter was buried in muscle at lower angle of wound. The boy made an excellent recovery, and when shown to the Society on 12th April appeared in very good health.

The following is the pathological report by Dr. J. Shaw Dunn:—

The specimen forms an irregular oval mass, measuring 6 inches in length, 4½ inches in width, and 3½ inches in thickness. The greater part of it is formed by a fairly soft nodular tumour of pale greyish colour, and the lower portion of the right kidney is easily recognisable at its lower end. The fibrous renal capsule completely encloses the tumour with the kidney, and strips readily from both. When it is removed it can be seen that the tumour has invaded the upper portion of the organ, and in the course of growth has expanded it until only a thin rind is left, recognisable in places by its colour. The lower part of the kidney is only slightly stretched, and the renal tissue there is well maintained. The growth protrudes through the hilus between the renal vein, which is in front, and the renal artery, which is behind. The ureter escapes below. When the ureter and pelvis are slit up

FRONT OF SPECIMEN. BACK OF SPECIMEN.


Tumour occupying upper portion of kidney.
Lower pole of kidney.
-Renal vein
Renal artery
Tumour occupying upper portion of kidney
Tumour in hilus.
Margin of renal tissue towards hilus
Lower portion of kidney.
Ureter

(Diagrammatic)

an ulcerated surface of tumour tissue is visible in the pelvis. No invasion of veins is noted. On section the tumour is composed of large rounded masses of soft, greyish, translucent tissue, separated by more fibrous bands of paler colour.

On histological examination of various parts, the tumour shows an almost purely adenomatous structure. The acini vary in size, and are lined by single layers of columnar or cubical cells of peculiarly embryonic type. They are supported generally by a loose scanty stroma. In a few areas the stroma is more abundant and cellular, and contains numerous thin-walled vessels. In such areas the stroma cells come to resemble strongly those lining the acini. The general appearance of the tissue is somewhat suggestive of renal tissue at an early date in fœtal life, but no structures are seen suggestive of glomeruli. No muscular tissue is seen.

The specimen is an example of the typical malignant tumour of the kidney in childhood, namely, the embryonic adenosarcoma. This form of tumour may show great variations in structure; adenomatous and sarcomatous elements are generally present, but may be in varying proportions. In addition to these there may be present transversely-striped muscle, cartilage, or bone. The present example is peculiar in being almost entirely adenomatous in structure. The origin of such tumours has been variously referred to the Wolffian body, to the early metanephros itself, and to displaced portions of early mesoderm or muscle-plates. It is sometimes called a "nephroma," in view of the possibility of its being derived from the rudiment of the kidney.

II.—CASE OF VOLKMANN'S ISCHÆMIC PARALYSIS AFTER OPERATIVE TREATMENT.

By Dr. J. Mill Renton.

I was anxious to show this case to-night, as it illustrates the rather uncommon condition known as Volkmann's ischæmic paralysis.

The patient is a girl, æt. 8 years old, and last August she sustained a simple fracture of both bones of the fore-arm. I have not been able to find out the details of treatment, but the mother tells me that the night after the fracture was put up the child suffered great pain, and the following morning the hand was bluish in colour and much swollen. The splints were removed and reapplied, and the child was quite comfortable after that. In three or four weeks, when they were finally removed, the fingers of the hand were found to be contracted, and the child was unable to use her hand at all.

I saw the case three months later, and found the hand bluish-red in colour and cold to the touch, resembling very much a hand where the nerves have been divided. The fingers were markedly flexed on the palm, and the child could only extend them to a limited extent. She was able, however, to further flex them, showing that the flexor muscles were acting. Any attempt at forcible extension was resisted absolutely by the contracted flexors.

On examining the fore-arm a hard, matted lump was felt on the flexor aspect, just where the tendons joined the muscular bellies, and it appeared to move slightly when the patient carried out the limited flexion and extension of which she was capable. The muscles themselves were not markedly wasted, and did not feel harder than normal.

Sensation to light touch was absent on the flexor aspect of the fingers, but the sense of pain and pressure, as also the heat and cold sense, were present.

Dr. Hay kindly tested the electrical reactions and found them normal. No reaction of degeneration was present, and galvanic and faradic responses were normal.

The girl could not use the hand at all.

There are one or two points common to these cases I should like to mention.

They appear to occur nearly always in children under the age of 14. I have only been able to find one record of a case occurring later—in a lad of 18—and it is a little doubtful if this was quite a similar condition. Then, again, it is nearly always the flexors of the fore-arm that are affected. Mr. Guy, however, reports one case where the calf muscles were involved. Similarly, there is nearly always a history of pressure of some kind on the fore-arm or arm, either by splints or a tight bandage.

The pressure produces a condition of ischæmia or diminished blood-supply, and it has been supposed that numerous small parts of muscular tissue die, and a condition of fibrosis then takes place. Certainly in some of the recorded cases the flexor muscles have felt hard and fibrous. Volkmann, however, thinks that the contraction comes on almost immediately, and that one has really a condition of the muscle similar to rigor mortis. In my case it seems probable that the lump felt in the fore-arm was a mass of fibrous tissue, and that it was largely responsible for the contracture of the flexor tendons.

Treatment.—1. If the case is slight and seen early, massage and passive movement may be sufficient to cure it.

2. The Jones method of splintage.

3. Tendon-lengthening by tendoplasty.

4. Tendon-lengthening indirectly by shortening both bones of the fore-arm.

The last method is the one which was adopted here.

The radius and ulna were exposed by lifting a flap from the extensor aspect, and both bones divided subperiosteally and dislocated backwards. The lower fragments were then slid up on the upper until one saw how much one required to remove. I removed an inch and a quarter subperiosteally, and united the bones with silver wire. This procedure allowed a very fair degree of extension, but not quite full extension.

The day following the operation it was found that the circulatory changes in the hand were completely gone. The fingers were pink in colour, and quite warm to the touch. The result of the operation gave a very good degree of flexion and extension, but extension was not quite complete. It has, I think, been somewhat improved by using splints as Mr. Jones has advised, and the child has now a very useful hand.

III.—THE DIAGNOSIS OF CHRONIC GONOCOCCUS INFECTIONS.

By Dr. David Watson.

Dr. Watson's communication will be published as an original article in a future issue of the *Journal.*

IV.—AN EXAMINATION OF 1,050 SKULLS: SOME POINTS OF INTEREST IN CONNECTION WITH THE SURGERY OF THE EAR AND NOSE.

By Dr. W. S. Syme.

Dr. Syme's paper is published in the *Journal of Laryngology, Rhinology, and Otology*, No. 6, June, 1912.

OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.

Session 1911-1912.

Meeting IX.—22nd May, 1912.

The President, Dr. A. W. Russell, *in the Chair.*

I.—FRESH SPECIMENS.

1. Dr. A. W. Russell—(*a*) Markedly œdematous ovary attached to ectopic pregnancy; (*b*) uterus removed *per vaginam* one year after utriculoplasty had been performed for recurrence symptoms; (*c*) fibroid uterus (vaginal hysterectomy); (*d*) uterus (fibrosis).

2. Dr. W. D. Macfarlane, Jun.—(*a*) Fibroid uterus with cystic degeneration; (*b*) tuberculous tube and ovary.

3. Dr. D. Shannon—(*a*) Ruptured uterus; (*b*) suppurating dermoid cyst.

4. Dr. Louise M'Ilroy—Microscopic section of graft of ovarian tissue to side of ovary, showing that though five weeks after removal of ovaries there is no uterine atrophy.

II.—CHRONIC OVARIAN PAIN AS ILLUSTRATED IN THE RECORD OF A CASE FINALLY TREATED BY DOUBLE OÖPHORECTOMY.

By Dr. A. W. Russell.

Dr. Russell's paper was published as an original article in our issue for August, 1912, p. 81.

Dr. Nigel Stark advised caution in removal of the ovaries.

Dr. Shannon always tried prolonged medical treatment first.

Dr. Macfarlane stated that in 180 cases in which he had performed oöphorectomy, 85 per cent state they are quite cured.

Dr. Duff pointed out that it must not be forgotten that constipation caused pain over the ovarian region.

III.—NOTES ON CASE OF PYELITIS COMPLICATING PREGNANCY.

By Dr. Wm. D. Macfarlane, Jun.

Mrs. P., aged 36 years, was admitted to the Royal Samaritan Hospital suffering from sickness and vomiting, and with backache. She had been under treatment for some time, but there was no improvement.

Present illness.—Patient menstruated regularly till early in June, when she had her last period. After that patient believed herself to be pregnant. At the beginning of July she began to feel "out of sorts," and fainted on two occasions. About that time patient became troubled with pains in the back and lower part of the abdomen. Sickness and vomiting also set in, beginning usually in the early morning before patient rose out of bed, and sickness lasting all day. The vomiting was apparently not related to the taking of food. About four weeks ago patient's condition became much worse. Pain and vomiting became more severe, and patient suffered from diarrhœa.

Patient has made practically no improvement during the past month, although she has been confined to bed practically all the time. There have occasionally been streaks of bright blood in the vomits, but patient has not noticed herself vomiting coffee-ground material. Patient has had very dark motions, but never tarry.

Two weeks ago patient took a very severe attack of pain in the abdomen, and believed that labour was coming on. There was a slight discharge of blood and mucus, but this lasted only for a few days, and the pains became less severe. Some clear fluid also came away, but patient does not know whether or not it was urine.

A very severe attack of pain and vomiting came on four days ago, but this also has subsided.

There has been no marked swelling of the feet, and no rigors.

Headache has been present practically constantly for the past three months: no dimness of vision, except on sudden exertion.

Previous health has been very good, though she suffered for several months during her first pregnancy from sickness and vomiting.

Present condition.—Patient is a rather thin woman, with pale colour.

Tongue.—Dry, but not thickly furred.

Teeth.—Upper, artificial; lower, some carious stumps.

Heart.—Area normal to percussion. On auscultation no murmurs present, but sounds are weak and of poor quality. Pulse, 120 per minute.

Lungs.—Normal.

Urine.—Specific gravity 1016; acid; albumen present; pus present; no sugar or blood.

Very slight œdema of the legs is present. Colostrum is present in both breasts. For nearly three weeks patient says she has felt fœtal movements.

Abdomen.—On inspection, there is distention of the abdomen, more marked below the umbilicus. On palpation, a firm swelling is felt extending up to within two fingerbreadths of the umbilicus. Kicking movements are felt at times.

On percussion, dulness present over this swelling.

On auscultation, fœtal heart sounds are heard in the middle line of the abdomen, midway between the pubes and umbilicus.

Per vaginam.—External genitals normal, except for slight swelling of the labia.

Anterior vaginal wall bulges slightly into the vagina. Cervix lies back towards the hollow of the sacrum. Os is slightly patulous. Uterus is enlarged to nearly the umbilicus.

3rd November, 1911.—Patient has improved very much since admission to hospital. There has been no vomiting, and patient takes her food fairly well. Pus is still present in the urine, which is acid, despite large doses of pot. cit. Pain still present over right side of abdomen. Patient has been complaining greatly of fœtal movement.

4th November.—Patient has not vomited since admission, but still complains of severe pain over the right side of the abdomen. This morning the urine is alkaline. Pus still present in the urine. Patient's pulse has not been satisfactory for the last two days—on an average about 120 per minute. Patient has a very toxic look.

7th November.—Bacteriological report on the urine shows the presence of bacillus coli and bacillus Grünthal. Vaccine prepared. First injection of vaccine given to-night—3 minims = 37 millions.

10th November.—Temperature has not risen above 100° F. since last injection, but pulse remains very quick, varying between 106 and 116 per minute. Second injection of vaccine given—4 minims.

Patient vomited yesterday, the first time since admission. Pot. cit. stopped. Pus still abundant in urine.

Patient had an exceedingly severe attack of pain in the lower part of the abdomen this afternoon, which seemed to shoot down from the right lumbar region.

11th November.—Patient is exceedingly ill to-day. Temperature this afternoon rose to 103·4°, pulse 150. She is being sponged down, but this has little effect on the pulse-rate. Patient on strychnine (gr. $\frac{1}{60}$ three-hourly).

12th November.—*Operation*: Under ether anæsthesia cervix was dilated up as far as possible with Hegar's dilators (up to No. 20). A Barnes' bag was then introduced into the cervix and dilated with air. Cervix packed with plain gauze packing.

13th November.—Packing removed from vagina, as patient having pains almost every five minutes; one pain expelled the Barnes' bag. Os dilated to admit two fingers easily, but still rigid. Membranes bulging with each uterine contraction.

15th November.—Patient still having pains regularly, but very little progress being made. Patient to have hot vaginal douching and quinine every hour. Pulse still 120 per minute on an average.

17th November.—Membranes ruptured and hand prolapsed yesterday: very little progress being made, and patient becoming exhausted.

Patient was anæsthetised by house surgeon to-night, and Dr. Ritchie delivered by turning and bringing down a foot. Placenta removed at once manually.

18th November.—Patient is much better to-day. The pulse is 102 per minute instead of 120, and is very much improved; she is feeling comfortable.

1st December.—Pulse and temperature are satisfactory now, and patient's general condition is very good. Vaccine has again been begun, as pus still present in the urine.

7th December.—Patient dismissed.

In the February meeting of 1909 I read a paper on "Pyelitis complicating pregnancy and the puerperium," giving records of seven cases under my personal observation. Since then I have had four other cases—two of the acute type occurring during pregnancy, one of which I have just recorded, and two during the puerperium so mild in character that the question of enteric or puerperal infection of a mild character was raised, on account of the irregular fever and abdominal distension. The fever was not characteristic; a Widal's test was negative. Pyuria in small quantities revealed the condition; the cultures revealed a large proportion of bacillus coli to other organisms, and recovery was complete and rapid after vaccine treatment extending over three weeks.

In both the acute cases the vaccine treatment was not apparently helpful, but on labour being induced and completed the acute symptoms immediately subsided.

Lumbar pain in pregnancy, according to Ludaux, is most frequently due to pyelonephritis; one, however, has to distinguish a pyelitis from a cystitis. Here the cystoscope is useful, and Pilcher states that cystoscopic examination reveals obstruction to the urinary flow, due to the distortion of the vesical portion of the ureters in the middle months of pregnancy.

Mirabeau and Stoeckel also advise cystoscopy, and the former states that dilatation of the ureters in pregnancy is due not only to the compression against the brim, but also to the pressure exerted by the swollen mucosa of the bladder.

REVIEWS.

Wheeler's Handbook of Medicine. By WILLIAM R. JACK, B.Sc., M.D., F.R.F.P.S.G. Fourth Edition. Edinburgh: E. & S. Livingstone. 1912.

So long as there are students with examinations to pass so long will the handbook be in demand, for, unlike the big overgrown text-book, it awakens no terrors in the undergraduate mind, but is altogether most comfortable and reassuring. Much might be said in favour of the book that can be thoroughly and repeatedly compassed by the harassed student, and that can be carried about for study and consultation at odd moments; and we feel confident that it may far outweigh in usefulness bulkier and more ambitious tomes, if it be but compiled by a sufficiently experienced and broad-minded teacher. Such a one is Dr. Jack, who exhibits here a perfect genius for the selection of what is essential and important, and shows that he possesses in a very high degree the faculty of concise and lucid exposition. This is a splendid book for students, and we have the utmost confidence in recommending it as a successful epitome of present-day medicine. All the articles we have read are wonderfully accurate and comprehensive. We have detected no gross sins of commission, and the worst we can charge the author with are a few peccadilloes of omission that are unavoidable in a work of these limited dimensions.

The entire book has been carefully revised, and much of it has been recast. With a view to making the volume more complete, a section on intoxications has been added, and among the specific infections many new articles have been devoted to tropical diseases. "So great, indeed, have been the changes since 1894, the date of the first edition, that little now remains of Dr. Wheeler's writing, save in the sections of symptomatology, and even these have been in the majority of instances amplified or extensively modified." The original object of the work is, however, still retained, namely, "the correlation of symptoms with the facts of anatomy and physiology in a volume which does not by its size preclude the possibility of its being used as a companion in the clinical study of disease."

Manual of Operative Surgery. By JOHN FAIRBAIRN BINNIE, A.M., C.M. Aberd. Fifth Edition. Revised and Enlarged. With 1,365 Illustrations, a number of which are in Colours. London: H. K. Lewis. 1912.

IN presenting us with a new edition, Dr. Binnie has considerably altered the form of his well-known *Manual.* Our readers may remember that the work originally appeared in one small volume. After the fourth edition was published, a second volume was issued dealing with the operations on the bones and joints, &c., which had not previously been included in the work. The present volume is, therefore, the fifth edition of Volume I of the fourth edition, and the second edition of Volume II.

As we have before remarked in dealing with new editions of works on surgery and operative surgery, it would seem to be the rule for each successive edition to eclipse in point of size its predecessor. This has occurred in the present instance. Instead of two small and truly handy volumes, we have what can only be described as a "bulky tome," almost necessitating the use of a reading-desk. The contents, nevertheless, maintain the high standard of the smaller volumes. The text is eminently readable, and the illustrations are unassuming and to the point.

We have no doubt that this edition of the *Manual* will have as much popularity as preceding editions attained, and deservedly, and the author is now so well known to British surgeons that we feel that a recommendation from us is hardly necessary.

A Manual of Surgical Treatment. By SIR W. WATSON CHEYNE, Bart., C.B., &c., and F. F. BURGHARD, M.S. Lond., &c. New Edition, with the Assistance of T. P. LEGG, M.S. Lond., and ARTHUR EDMUNDS, M.S. Lond. In Five Volumes. Vols. I and II. London: Longmans, Green & Co. 1912.

As indicated in the preface to the first edition, this work was designed to give to the practitioner "full and detailed information as to the best methods of treatment." In pursuance of this plan the authors described only those methods which their experience had led them to believe to be the best, and they stated in detail what they themselves would do under given circumstances. The first edition appeared in 1899, and since then the changes in surgical practice have been so numerous as to render necessary the re-writing of a new edition. Further, to enable the authors to complete the work within a reasonable time, they have secured for this new edition as collaborators Messrs. T. P. Legg and Arthur Edmunds, and appendices to Volume I have been written by Drs. Silk (on anæsthetics) and D'Este Emery (on examination of the blood).

Volume I is concerned with the treatment of general surgical diseases, including inflammation, suppuration, gangrene, &c., and deformities.

The reviewer of a work such as this may occasionally differ from the authors, but when he bears in mind that the methods of treatment advocated are those which the authors have come to use as a result of their personal experience, his criticism is to some extent disarmed. We would, however, draw attention to what is clearly an error in the description of Hilton's method of opening a deep abscess (p. 28). This surgeon, in his well-known *Lectures* (fourth edition, p. 130), was careful to point out that the knife should penetrate the deep fascia, and we think that the method described in the volume before us is not only wrongly named, but is actually not good practice. Again, the subject of whole-skin grafting is summarily dismissed (p. 53) as "not satisfactory." We are sure that there are many surgeons whose experience will not allow them to agree with this opinion. We are pleased to note the hopeful view the authors take regarding the treatment of psoas abscess (p. 235), but we think that, as the scraping out of such a cavity must necessarily be incomplete, the soundness of the method is open to question.

It is not possible to notice all the good things in the volume, but we would mention the authors' views as to the comparative merits of "antiseptic" and "aseptic" methods as sound and well worth careful consideration. The same may be said of their handling of the salvarsan treatment of syphilis.

In Volume II the matter is arranged in three divisions. In Division I the surgical affections of the soft tissues are considered. These comprise skin, nails, lymphatics, muscles, nerves, blood-vessels, &c. In Division II the bones are dealt with, separate sections being devoted to fractures and to diseases. Division III treats of amputations.

There is a very good description of the non-operative treatment of tuberculous lupus and of rodent ulcer. The operative treatment of sebaceous cysts is also clearly laid down. The transfixion method for cysts on the scalp is no doubt good, but we prefer, when possible, excision as a cleaner method of removal. Operations for in-growing toe-nail are clearly figured. In the chapter on the lymphatic vessels there is a short but good description of lymphangeioplasty. The removal of the remains of the gland after opening an acute gland-abscess is advocated, and we believe in the soundness of the practice. Similarly, stress is laid on the excision of tuberculous glands. Tenosynovitis is dealt with at length, and ganglion occupies the concluding sections of this chapter.

The section on varicose veins will be found very useful. Arteriorrhaphy is briefly described. As the authors say, "This operation . . . can only be called for very rarely." A full account of the treatment of aneurysm is followed by a useful summary. A large proportion of the volume is devoted to fractures, and the various diseases of the bones are also taken up. The volume concludes with an account of amputations.

We have perused the greater part of these volumes, and, bearing in mind the authors' principle in selecting methods for description, we find that the work is very well done, and may safely be recommended to our readers. The size of the book will prevent its becoming a *vade mecum*, but it is not too large for armchair reading, and it will be found of great use in supplying the reader with details of reliable treatment for the conditions with which it deals.

Public Health Chemistry and Bacteriology. By DAVID M'KAIL, M.D. Bristol: John Wright & Sons, Limited. 1912.

THIS handbook for D.P.H. students is got up in concise style, and will be found useful to all who are studying the subjects with a view to the Diploma in Public Health.

In the preface Dr. M'Kail disclaims all originality, and, of course, this disarms criticism. The compilation, however, has been judiciously carried out, and nothing of real importance has been omitted. The entire absence of illustrations has enabled the book to be published at a very cheap rate, but in laboratory work it is undoubtedly a defect, as illustrations are more necessary here than in any other department of the work.

As a whole, the chemical manipulations are properly and correctly described. Of the two methods of collecting air for examination (p. 62) one is superior to the other, and should be so indicated. In the estimation of lactose in milk (p. 77) no mention is made of the Pavy-Fehling or the Gerrard-Allen methods, both of which are superior to the method described. On page 87 certain acids are referred to as the "soluble" fatty acids; it is not indicated that these acids are also the "volatile" acids, though on the following page the process for the estimation of the volatile fatty acids (in butter) is given.

Some useful tables are appended to the chemical section.

The relatively large and ever-increasing importance of public health bacteriology is shown by the fact that this section occupies almost exactly two-thirds of the book, and if the chemical section may quite reasonably be held insufficient, the same remark applies to the section on bacteriology also. Indeed, the time has long since arrived when the various and diverse departments of public health work, even the strictly practical work, should be treated as separate subjects and under separate covers. Strictly speaking, there is no special public health bacteriology such as we find in the pages before us, and this subject might well have been omitted, and greater space given to the purely laboratory methods. A purely laboratory course on bacteriology as applied to public health is another matter.

In dealing with the preparation of media, Dr. M'Kail properly mentions the fact that meat extract may be used in place of lean beef, but surely the reader should be informed which method is preferable. Further, Eyre's scale, though described, is not mentioned by name.

In the instructions for making and staining films (p. 161) the method by using a cover-slip is described in full, but once more the student is left wondering whether the employment of slides in place of cover-slips is preferable.

The chapter on immunity and anaphylaxis is an excellent *résumé* of our present knowledge of these important points.

The chapters on the various groups of organisms are excellent, though too condensed.

The special bacteriological examinations of water, air, milk, &c., are clear and sufficient.

In the appendix is an interesting summary of the evidence on the human and bovine types of the tubercle bacillus.

As a whole, the book is a useful collection of facts dealing with the subjects of public health chemistry and bacteriology.

Crime and Insanity. By CHARLES ARTHUR MERCIER, M.D., F.R.C.P., F.R.C.S. London: Williams & Norgate. 1911.

THIS little volume is one of the "Home University Library of Modern Knowledge." It is to be regarded as a supplement to the author's book on *Conduct and its Disorders.* In considering the relation of insanity to crime, and in order to make clear what insanity is and what crime is, the constitution of human nature and of human society, and the means of preservation of life in general, are discussed. Insanity is disorder of the process of adjusting the self to the circumstances, and is primarily manifested in disorder of conduct. It is only when the highest levels of mind and conduct are disordered that insanity exists, and there is non-recognition of the disorder by the subject of it. The highest faculty of mind is the ability to choose; this faculty is disordered in insanity, and when conduct is chosen which is calculated to defeat a desired end, such conduct and choice are insane. Disorders may affect both mind and conduct in many ways, and these disorders are usually proportionate to one another. The disorder may be widespread or very limited, it may last a few seconds or a lifetime. Insanity does not necessarily lead to crime, nor is it a necessary ingredient in crime, and an insane person should not be absolved from punishment for a crime that is not the consequence of his insanity. Experience has shown that certain forms of insanity are apt to result in crime. Drunkenness stands first: drunkenness is insanity, and so far and so long as a man is drunk, so long and so far is he insane.

Drunkenness as a first offence should be severely punished, six or even three months' imprisonment without the option of a fine; and the drunkard should be punished in proportion to the deliberateness with which he brought himself into so dangerous a condition, rather than in proportion to the gravity of the crime committed.

After drunkenness, feeble-mindedness most frequently leads to crime, and a considerable proportion of habitual drunkards as well as habitual criminals belong to the feeble-minded class. Then comes epilepsy; all epileptics are subject to lapses of consciousness, during which they perform actions unknowingly and without any subsequent remembrance. These automatic actions occur mostly after minor fits and never after those that are extremely severe; and when such action takes place after any one fit, it commonly follows other fits in the same person, and the action is always of the same type in the same case, and is usually the caricature of an action that is normal and habitual to the individual.

Horrible crimes are associated with the condition known as masked epilepsy, and the association is difficult to prove. In paranoia, or systematised delusion, the subject believes himself to be the victim of a plot, and is apt to take desperate measures to counteract it. General paralysis of the insane occasionally leads to assault. Deep melancholy often leads to criminal acts; to save those dear to him from some imagined impending calamity, the melancholic takes their lives.

Anomalies in the classification of crime, used by prison officials, are pointed out, and another form suggested and discussed. Offences are international and national: the former are now rare. National offences, acts injurious to society, are sub-divided into public offences and private offences. The former are either grave or minor: of the latter the two great classes are those that are self-advantageous—mainly prompted by jealousy—and those that are family, racial, or social—offences against chastity, the marriage tie, or the coming generation. These are considered in some detail, and the extent to which insanity contributes to their occurrence. In the chapter on family and racial offences the immorality of artificial prevention of conception is recognised, but is evidently regarded as a necessary evil. May we suggest that a higher moral standpoint would have been more in keeping with the tone of the rest of the book?

There is a complete classification of offences, grouping together those that are most alike in nature.

The ways in which insanity contributes to crime are considered, and the responsibility of the insane for the offences they commit summarised.

There is also a note on the literature of the relations between insanity and crime.

An Index of Differential Diagnosis of Main Symptoms, by Various Writers. Edited by HERBERT FRENCH, M.D., F.R.C.P. Bristol: John Wright & Sons. London: Simpkin, Marshall, Hamilton, Kent & Co. 1912.

THE volume before us "covers the whole ground of medicine, surgery, gynæcology, ophthalmology, dermatology, and neurology," and is based upon a conception distinct from that of the usual text-books of differential diagnosis. In them diseases are the units, in this, symptoms; and the argument is from the main symptom to the diseases in which it may occur. A patient suffers, let us say, from brachial pain, and his attendant is uncertain to what cause it may be due. He turns to the article on pain in the upper extremity and finds under it a list of the various conditions which may cause it, with an admirable description of their main characteristic symptoms. Having selected from among them the disease which most nearly corresponds to his patient's case, he then looks it up in the very elaborate index, which extends to one-sixth of the total volume of the book, and finds there references to further articles in which its other symptoms are discussed in detail, and differentiated from similar symptoms in other diseases. The diagnosis is thus arrived at by exclusion, and, as it would at first appear, with the expenditure of a minimal amount of reasoning or of personal observation. But a little reflection will show that a diagnosis obtained in this manner is neither so easy nor so useful as it seems. "Besides the pain, were these other distinguishing phenomena present, or were they not?" we can imagine the practitioner saying to himself; and he may need several visits to the bedside to obtain the information which his reliance on a distinctive symptom had caused him to overlook. And one who is in the habit of observing, as far as his abilities permit, all the features of a given disease, and who has even as much acquaintance with medicine as is implied in five or six years of sound teaching, will have already acquired so much instinct for nosology as to be able to assign any particular case to a given class. His further search is, therefore, limited to the units of that class, and the discussion, in connection with a special symptom, of all its possible causes is unnecessary and a waste of time. It must have caused Sir Malcolm Morris some qualms when, under the heading of "Vesicles," he had to differentiate between smallpox and cheiropompholyx. Further, the prominence thus given to individual symptoms must tend to promote an irreflective habit of mind, which is neither to the advantage of the patient, nor ultimately to that of the practitioner. He will always be the best diagnostician who considers all the circumstances of a case, and reflects upon them in their bearing upon the disease as a whole.

Given the principle upon which the book is based, it is as well done as it is possible to be. The articles are by men of eminence; they are illuminative, concise, and yet often exhaustive; and by the use of a somewhat small yet admirably clear type it has been possible to compress an amazing quantity of information into the thousand pages of the volume. The illustrations, both in colours and in black and white, are numerous, excellent, and really illustrative; and a special word of praise is due to Dr. Farquhar Buzzard's series of photographs illustrating facies in disease.

The Skiagraphy of the Accessory Nasal Sinuses. By A. Logan Turner, M.D., F.R.C.S.E., F.R.S.E., and W. G. Porter, M.B., B.Sc., F.R.C.S.E. Edinburgh and London: William Green & Sons. 1912.

The value of skiagraphy as a help in the diagnosis of accessory nasal sinus mischief will be admitted. Further, it is of great assistance in determining the choice of operative interference. This is especially the case in diseases of the frontal sinus, where the size of the cavities and the position of the intersinus septum can be ascertained with a fair degree of precision before operation. It is in these operations and those on the ethmoidal cells that there are sometimes difficulties in accurate diagnosis by means of the ordinary clinical methods, and we realise the importance of any extra assistance in diagnosis. Skiagraphy offers this assistance.

If anyone should feel sceptical regarding the advantages of skiagraphy in accessory nasal sinus disease we can confidently recommend a perusal of this atlas. It contains the finest series of skiagrams we have seen. This may be due to the improved technic recommended by the authors, which is fully described in the text.

One of the plates particularly impresses us, and shows the value of the work to the specialist and the general surgeon. In Plate 37 there is a profile view of the head of an adult female upon whom an operation had been performed for malignant disease of the right upper jaw. The plate shows the recurrence of the disease in the posterior ethmoidal and sphenoidal sinuses.

What to do in Cases of Poisoning. By WILLIAM MURRELL, M.D., F.R.C.P. Eleventh Edition. London: H. K. Lewis. 1912.

WE have pleasure in calling the attention of our readers to the latest edition of this excellent little work. It has been thoroughly revised, and many additions have been made. One of the new poisons is veronal, with regard to which the writer says that the employment of this drug for suicidal purposes is enormously on the increase, and almost every day fatal cases are recorded. He mentions that death has resulted from 15 grains, and from 30 grains.

A Dictionary of Treatment, including Medical and Surgical Therapeutics. By Sir WILLIAM WHITLA. Fifth Edition. London: Baillière, Tindall & Cox. 1912.

THE many to whom the disappearance of Sir William Whitla's standard text-book from the market was a matter for regret will extend a cordial welcome to the issue of the fifth edition. The volume has been out of print for some years, and its author has availed himself of the interval to produce what is in many respects a new book. In size alone it has increased from the 950 pages of the first edition to 1,200 pages in its present form, but it remains a volume which it is possible to hold comfortably in the hand.

In the past few years there have been many changes in treatment, based upon an altered conception of disease and a more extensive knowledge of the natural processes of immunisation. So completely have these conceptions modified the prevailing methods that Sir William Whitla has found himself compelled virtually to rewrite his book, which was not so very long ago an admirable manual of contemporary practice. A comparison of any one of the more important articles in the first edition, published in 1892, with the corresponding article in the present volume will show, better than an extended argument, the distance we have travelled in the brief space of twenty years.

It is superfluous to commend the *Dictionary of Treatment*; it is recommended by the name of its author and by the success of previous editions, and in its present form it is as complete and as representative of the best practice as those editions have led us to expect.

Gonococcal Infection. By Major C. E. POLLOCK, R.A.M.C., and Major L. W. HARRISON, R.A.M.C. London: Henry Frowde and Hodder & Stoughton. 1912.

THIS volume, one of the excellent series of Oxford Medical Manuals, gives a very complete and yet succinct account of the present position of our knowledge regarding gonococcal infections. Beginning with a full discussion of their bacteriology and pathology, it goes on to deal with vaccine and serum treatment in their general application, and afterwards considers primary infections in the male and their complications, infections in the adult female, gonococcal ophthalmia, the vulvo-vaginitis of little children, and gonococcal septicæmia, giving on each of these subjects much information that cannot fail to be helpful to the practitioner.

A notable feature of the volume is the fulness and critical ability with which the subject of treatment is handled by the authors, who speak from a very large army experience. They have little belief in the value of balsams, save for their moral effect on those who expect to be prescribed them; and in treating the primary infections they rely mainly on local measures. Except, perhaps, in vulvo-vaginitis, vaccines are of little service in these conditions, but the authors, though by no means fanatical, are fully convinced of their value in many of the complications. They consider it undesirable to sterilise the vaccine by heat, as its efficacy is thereby impaired, and the organism is readily killed by the addition of 0·5 per cent carbolic or 0·25 per cent lysol.

The volume more than maintains the high standard of the series to which it belongs.

Clinical Methods: A Guide to the Practical Study of Medicine. By ROBERT HUTCHISON, M.D., F.R.C.P., and HARRY RAINY, M.D., F.R.C.P. Ed., F.R.S.E. With 13 Coloured Plates and 146 Figures in the Text. Fifth Edition, revised throughout. London: Cassell & Co., Limited. 1912.

THE remarkable success of this work, of which five editions and reprints have now appeared, is a sufficient testimony to its popularity, and is very good evidence as to its merit. In this the latest edition the original plan of the book is retained, but all the chapters have been thoroughly revised, and considerable portions have been re-written, in order to keep the text up-to-date. Dr. James Ritchie is responsible for the chapter on bacteriology. The chapter on the blood is illustrated by new plates. We would suggest that to the ova illustrated on page 107 there might with advantage be added the ovum of ankylostoma duodenale. We have pleasure in strongly recommending this new edition.

The Treatment of Shortsight. By PROF. DR. J. HIRSCHBERG, Berlin. Translated by G. LINDSAY JOHNSON, M.D., F.R.C.S. London: Rebman, Limited. 1912.

THIS is an excellent little monograph by a competent and painstaking clinical observer, and deserves to be widely read, especially by those who are intrusted with the supervision of the eyesight of the rising generation. To those who have been carefully perusing the literature of the subject there is nothing strikingly new in the book, but it is a very competent summary of the whole subject. What may be called the economics of shortsightedness were, so far as we know, first studied by Cohn so far back as the year 1867. He investigated the eyesight condition of no fewer than 10,000 school children, and from that day to this many investigators have devoted their attention to this region of study. In 1882 a few members of one of the school boards of the United Kingdom were approached with a view of impressing upon them the need of having the children in the schools under their auspices properly examined, and the reply came back that these gentlemen saw no need of any such thing. Times have changed, however, and examinations of a kind are now very general. We say of a kind, for the reports which are current as to the nature and extent of these examinations are rather appalling.

Under this present system of medical inspection we hear rumours of 200 children having their eyes examined in something like an hour. If that be true, it goes without saying that not a single child of the whole batch was examined, but then in the United Kingdom that is not the question; all is well so long as money is squandered "to meet the requirements of the department." This is not, however, the place to enter into a discussion of rumours of the kind; the volume in hand is a standing reproof to any slovenly work. On one or two points we would beg leave to lay special stress. In the first place we never have believed in the existence of sclerotico-chorioditis posterior, which was the common creed of our student days, and we are glad to find that in this we are in entire concurrence with Professor Hirschberg. It is not an inflammation at the back of the eye which causes progressive myopia, but rather an atrophy, and the old treatment of leeching and mercurials, which perhaps is even yet sometimes pursued, cannot be expected to give beneficial results.

The author lays considerable stress on the occasional occurrence of glaucoma along with myopia, and it is a condition which must steadily be borne in mind for it unquestionably occurs. Of special value are his observations on the incidence of detachment of the retina along with myopia, and on the treatment of extreme degrees of short-sightedness by needling of the lens.

Our own practice has been never to needle if the eye shows marked pathological changes, and if the myopia is under 20 dioptres. It is nothing short of mal-praxis to go and extract a lens where the myopia is about 10 dioptres.

Given a myopia of a certain amount, what will be the refraction of the eye after the destruction of the lens? That is an important question which, in the hands of Hirschberg, yields to a very simple and beautiful little analysis. We observe that Hirschberg has almost no faith in the treatment of myopia by pilocarpine and atropine, and incidentally in reading his book we find that acoin has not in his hands, at any rate, given satisfaction as an anæsthetic. Altogether it is an interesting volume and one which we can recommend.

Materia Medica and Therapeutics. By J. MITCHELL BRUCE, M.A., LL.D.(Hon.) Aberd., M.D.Lond., F.R.C.P., assisted by WALTER J. DILLING, M.B., Ch.B.Aberd. Ninth Edition. London: Cassell & Company, Limited. 1912.

WHEN a text-book reaches its ninth edition it is obvious that there can be little in it that may be adversely criticised. In this well-known manual one finds all the special points of former editions reproduced, with the revision necessitated by lapse of time. In materia medica things of late have not stood still, and the authors have added much that has been brought before the profession both in general therapeutics and in special materia medica. In an appendix they deal shortly but clearly with vaccine therapy, organo-therapy, ionic medication, and radium. This part of the book might perhaps have been slightly expanded with advantage since it extends only to eight pages. The book continues to be a clear, compact, and sensible guide to the student of materia medica.

The Cause of Cancer. Being Part III of *Protozoa and Disease.* By J. JACKSON CLARKE, M.B., F.R.C.S. London: Baillière, Tindall & Cox. 1912.

IN this work the writer again sets forth the case, with new arguments, for the view that cancer is due to the presence of one of the protozoa.

The book is, unfortunately, rather polemical in character, and the writer has a grievance. The suggestion that cancer is the result of the presence of one of the protozoa has been before the profession for many years, and the writer of the present volume was among the first to suggest this view. The profession was not convinced, and it is doubtful if the work under consideration will resuscitate very much interest in the theory embodied in its pages.

It is, of course, quite possible that cancer may owe its existence to infection by a parasite, but real evidence in favour of such a view is not yet forthcoming.

It must be fairly admitted that the writer has spared no pains to obtain facts in support of his theory. The laboratory work which his investigations must have entailed has evidently been very great, and the charge of sparing trouble cannot be brought against him. This compels our admiration and enlists our sympathy. At the same time we cannot help feeling that the energy might have been expended in a better direction.

The first chapter, which deals with the protozoa, is the best in the book, probably because the polemical element enters into it but little. In Chapter III the writer gives the history of the idea which he has followed since the year 1891. Chapter IV is supposed to give "some views on the nature of cancer, and that of the author." On reading the chapter it is found that the "some views" are dismissed in the course of two and a half pages, while "that of the author" has more than fifteen pages devoted to it. It would have been wiser either to have omitted all descriptions of the views of other authorities or else to give them a little more consideration. Chapter V is polemical, as also is Chapter VI; and large portions of the rest of the book partake of the same character, and are apt to prove irritating to the reader. If a writer feels his work is neglected it is more dignified to suffer in silence.

The cancer problem is perhaps responsible for more undignified bickering than any other scientific problem at present before the medical profession, and it behoves, therefore, all who write upon the subject to be tolerant to their colleagues. Good work is being done in many different aspects of the problem in so far as gathering facts is concerned, but the bold imagination, the master mind seeing deeply into the meanings of things, has not yet arrived to correlate these facts, and out of chaos to evolve order. When such an intellect does come among us we venture to think that it will solve other problems as well as that of cancer.

The volume is well got up in every respect, and the illustrations are excellent.

ABSTRACTS FROM CURRENT MEDICAL LITERATURE.

EDITED BY ROY F. YOUNG, M.B., B.C.

MEDICINE.

Auricular Fibrillation associated with a High Degree of *a-v* Block and Paroxysmal Tachycardia. By C. E. Lea (*Quarterly Journal of Medicine*, Oxford, 1912, vol. v, p. 388).—During the exhibition of digitalis and strophanthus in an old-standing case of auricular fibrillation, the following pathological arrhythmias were noted and tracings with the ink polygraph gained. In order these were:—

1. Ordinary auricular fibrillation, associated with an absence of the normal auricular wave *a* and ventricular irregularity; frequency, 96-104.

2. Auricular fibrillation with complete heart-block. Of abrupt onset and associated with typical Stokes-Adams symptoms. Ventricular frequency, 40; but frequent ventricular extra-systoles deformed, to some extent, the regularity of the idioventricular rhythm.

3. After the cessation of the strophanthus, ordinary auricular fibrillation with ventricular frequency, at first 78, after two days 96.

4. Renewed administration of digitalis lessened ventricular frequency to 80 in two days. This was associated with improvement in the patient's condition.

5. Onset of unusual and distressing type of respiratory rhythm of Cheyne-Stokes character; brief attacks of true paroxysmal tachycardia of (probably) nodal or ventricular origin.

6. Cessation of digitalis. Complete heart-block with auricular fibrillation. Ventricular frequency again about 40. General condition of patient better.

7. Gradual (within three or four days) removal of block, with increased ventricular frequency and irregularity, due both to frequent ventricular extra-systoles and also to the lessened block allowing irregular auricular impulses to excite ventricular response.

8. Death of patient a month afterwards.

The clinical notes and tracings are discussed.—G. B. FLEMING.

The Acidosis Index: A Clinical Measure of the Quantity of Acetone Bodies Excreted in the Urine. By T. S. Hart (*Quarterly Journal of Medicine*, vol. v, No. 20).—The conditions under which acetone, diacetic acid, and β-oxybutyric acid occur in the urine are mentioned. The source of these bodies is considered to be due to the faulty oxidation of fat. The harmful effects of this derangement in metabolism are two, viz., loss of energy to the body, and acid intoxication leading to coma.

Making quantitative estimations of the output of these bodies is important, not only in order that the loss to the body may be made up by increasing the diet, but also for purposes of prognosis.

Most of the methods of estimating the output of acetone, diacetic acid, and β-oxybutyric acid are complicated and expensive. The author has devised a simple method by which these bodies can be detected. It is based on the observation that early in a case of acidosis only small quantities of acetone are present in the urine: as the condition advances this will increase and diacetic acid will appear. When this latter substance is present in any considerable amount β-oxybutyric acid will also be found. As the acidosis clears up β-oxybutyric acid is the first to disappear, then diacetic acid, and, lastly, acetone.

The method employed is as follows: The urine is first tested for acetone by *Lange's test* (*i.e.*, nitro-prusside of soda, glacial acetic acid, and urine, with strong ammonia hydroxide poured on top). If this is positive, *Gerhardt's test* for diacetic acid is tried (*i.e.*, the port-wine colour produced by ferric-chloride solution when added to urine containing diacetic acid). If this is positive, two test-tubes are taken. Into one is placed 10 c.c. of a *standard solution* consisting of ethyl aceto-acetate, 1 c.c.; alcohol, 25 c.c.; distilled water to 1,000 c.c. Into the other test-tube, which should be of the same calibre (½-inch diameter) as the first, is placed 10 c.c. of the urine to be tested, 1 c.c. of ferric-chloride solution (100 grammes of ferric-chloride dissolved in 100 c.c. of distilled water). Allow the fluid to stand a couple of minutes, and then compare the colour of the two test-tubes against the light. If the standard solution is lighter in shade than the urine mixture, dilute this with distilled water until the colours match and not the volume to which it has been necessary to dilute the urine mixture. From this a numerical value for the acidosis index per litre can be obtained in accordance with the following schedule:—

Lange's test, positive, }
Gerhardt's test, negative, } . . . . = 0·5
Gerhardt's test, positive.—
  Volume of urine solution—
    10 c.c., ... = 1·0
    15 c.c., ... = 1·5
    20 c.c., ... = 2·0
    25 c.c., ... = 2·5
    40 c.c., ... = 4·0
    100 c.c., ... = 10·0

The acidosis index proper is estimated by multiplying the acidosis index per litre by the quantity of urine in litres passed in twenty-four hours.

The acidosis index approximately corresponds to the acidosis in terms of β-oxybutyric acid—*e.g.*, an acidosis index of 25 equals, approximately, 25 gms. of β-oxybutyric acid.

In utilising this test it must not be forgotten that ferric-chloride gives a colour reaction with other substances—*e.g.*, salicylic acid. This fallacy must be guarded against.—G. B. Fleming.

A Case of Thomsen's Disease. By Leonard Findlay (*Quarterly Journal of Medicine*, vol. v, No. 20, Oxford, 1912). The patient, a man of 28 years, came under observation at the beginning of the present year complaining of stiffness of the legs and arms whenever he started to move them.

The illness began at the age of 6 years. Practically all the muscles were affected during voluntary movement; but during involuntary movement—for example, while defæcating, micturating, or swallowing—the myotonic features were absent. The stiffness and inability to flex the muscles passed off after a few contractions.

The family history gave no points of importance.

On examination the stiffness complained of by the patient was shown to be due to inability to relax the muscles rapidly after contraction. This only occurred during the first few contractions and then wore off, so that after several movements the muscles could be relaxed as quickly as normal. All the muscles of the limbs, those of the eyelids, and possibly the jaw muscles, were affected; while the muscles of the trunk were not involved, with the exception of the latissimus dorsi, which showed the slow relaxation on voluntary contraction but not on involuntary contraction—*e.g.*, coughing.

Myographic curves are given showing the contractions of some of the muscles. Direct stimulation of the muscles showed the myotonic phenomenon, but the knee-jerks were normal.

The electrical reactions.—Stimulation of the ulnar nerve with the faradic current showed no quantitative variation from the normal. With strong currents and prolonged stimulation the relaxation was slow. The same occurred with the galvanic current. Otherwise the reactions were normal.

The latent period of the muscles was normal. When the patient was under fairly deep hypnosis the muscles still showed the myotonic characteristics.

The reflexes were normal.

Sensation was normal. The Wassermann reaction was negative.

On a creatin-free diet no creatin was found in the urine.

The author points out that, though in the main the case is similar to the others that have been reported, yet in some points it differs from the others. In this case there is no history of inheritance. There is no evidence of a neurotic temperament. Neither fatigue, cold, nor excitement aggravated the condition.

The etiology of the disease is discussed, and the author concludes that the disease is not one of muscles alone but that the nervous system also plays a not insignificant part in the etiology.—G. B. Fleming.

DISEASES OF THE SKIN.

Multiple Subcutaneous Hemangiomas, together with Multiple Lipomas, Occurring in Enormous Numbers in an otherwise Healthy, Muscular Subject. By John T. Bowen, M.D., Harvard (*The American Journal of the Medical Sciences*, August, 1912).—The patient was a Russian, aged 36 years. His history was irreproachable. He was married and had one healthy child. He was first seen in March, 1910. He was small of stature, but exceedingly muscular. During the early part of his life, and until eight years previously, he had been a professional boxer. He had never sustained any serious injury. His weight was 147 lb. He said he had first noticed his present affection three or four years previously, after he had given up his sporting career and had engaged in his present occupation, that of a builder. The first lesions appeared on the back, one or two in number, and they steadily multiplied. The lesions were numerous, small moderate sized tumours, most of them subcutaneous, so that the skin was freely movable over them. In a few instances there seemed to be a slight involvement of the corium. The surface of the skin was normal, with the exception that in a few places, not necessarily over the tumours, there was a slight bluish-red colour from venous stasis. The distribution of these nodules and tumours was over the trunk especially. The thighs were affected, although much less prominently, and there were only a very few lesions upon the neck. In size the lesions varied from that of a small pea to a pigeon's egg. They were moderately firm and elastic. They were either rounded or elongated in shape, and those of medium size could in many instances be picked up between the fingers, and gave the feeling of discs or coins. The lesions were absolutely non-sensitive.

The patient was seen again in November, 1910. The nodules had increased considerably in numbers. Some of the larger ones were now the size of a hen's egg, and their outlines could be faintly seen when the patient was examined at the distance of a few feet. A photograph of the patient would have shown only these few slight protuberances, which represented larger lesions, the hundreds of smaller lesions which studded the trunk being subcutaneous and invisible. The patient preserved his appearance of magnificent muscular development without apparently any excess of fat tissue. The patient was positive that none of the nodules had disappeared. No glandular enlargement was detected. No nodules had appeared upon the head or trunk, with the exception of the tongue. During the last six months a nodule had appeared on the tip of the tongue, and it had attained the size of a bean. It was sharply elevated, only slightly excoriated, firm to the touch, and had annoyed him somewhat in eating and drinking, although it was not specially sensitive. It was excised and the wound healed quickly.

The case was examined in 1912. The tumours upon the trunk had increased greatly in numbers. In most places there was barely an interval of half an inch in which tumours could not be felt. Some of the larger ones, especially those upon the back and loins, had reached the size of a hen's egg, and in a few instances there were ill-defined masses, although, as a rule, the tumours were sharply bounded. A few purpuric patches were present, sometimes over the lesions, sometimes not. The patient's general health was perfect.

Several lesions were examined histologically. The smaller tumours were composed of a new growth of blood-vessels, which seemed to be infiltrating the fatty tissue in every direction within the limits of the tumour. No distinct capsule could be detected, but the tumour was sharply bounded from the normal tissue surrounding it, as was evidenced by the ease with which it was expressed after excision of the overlying skin. In the larger nodules the amount of new formed angiomatous tissue became much less in comparison with the fatty tissue. This gradation was very marked and constant in all the lesions excised. The larger tumours were composed almost entirely of fatty tissue, and the only difference that they exhibited from ordinary lipomas was that they might be considered somewhat more vascular. Mitotic figures were occasionally found in the new growth of blood-vessels. The excised lesion of the tongue proved to be a pure hemangioma, with no fat apparent.

In literature no precisely similar instance has been discovered. In none of the numerous reported cases of multiple symmetrical lipomas has Dr. Bowen found the appearances described at all like those in the present case, and in none was there such an extraordinary number of small tumours.

A case of angiolipoma has been described by Berenbuch, but the author was unable to see the original paper. A case has been described by Winternitz and Boggs in 1910 in which there were multiple subcutaneous hemangio-endotheliomas; also the same of the intestinal tract, multiple polypi of the stomach undergoing malignant change, generalised vascular sclerosis, and cirrhosis of the liver in a mulatto, aged 65 years. The subcutaneous tumours presented a cavernous appearance. The writers found no similar instance of multiple subcutaneous hemangio endotheliomas.

The tendency of angiomas to infiltrate the fat tissue is well known (Borst, Ribbert). In many of these cases the growth of the vessels is at the expense of the fat, which gradually disappears. In the case reported the fact that in the smaller and younger lesions the hemangiomatous element was most pronounced, and that there was a gradual and progressive increase in the amount of fat tissue as the lesions became more developed, would favour the view that the growth of vessels is the primary process. The appearance of a single pure hemangioma upon the tongue where the fat tissue is normally scanty is also in accord with this theory. It seems as if the angiomatous growth invading the fat tissue causes an increase of this tissue, which in time overshadows and dominates the vascular growth, so that the large tumours are indistinguishable from true lipomas.—J. Wyllie Nicol.

Books, Pamphlets, &c., Received.

The Practical Medicine Series: Comprising ten volumes on the year's progress in Medicine and Surgery. Under the general editorial charge of Gustavus P. Head, M.D., and Charles L. Mise, A.M., M.D. Vol. I—General Medicine, edited by Frank Billings, M.S., M.D., and J. H. Salisbury, A.M., M.D. Vol. II—General Surgery, by John B. Murphy, A.M., M.D., LL.D. Vol. III—The Eye, Ear, Nose, and Throat, by Casey A. Wood, C.M., M.D., D.C.L.; Albert H. Andrews, M.D.; Gustavus P. Head.

Public Health Law: An Epitome of Law Applicable to England and Wales and Scotland, by William Robertson, M.D.Glasg., D.P.H., and Archibald M'Kendrick, F.R.C.S.Edin., D.P.H. Edinburgh: E. &. S. Livingstone. 1912.

The Treatment of Infantile Paralysis, by Oskar Vulpius, M.D. Translated by Alan H. Todd, M.B., B.S., B.Sc.Lond. With Introduction by J. Jackson Clarke, M.B.Lond., F.R.C.S. London: Bailliere, Tindall & Cox. 1912. (10s. 6d. net.)

Medico-Legal Examinations and the Workmen's Compensations Act, 1906, by Sir John Collie, M.D., J.P. London: Baillière, Tindall & Cox. 1912. (5s. net.)

A Report to The Carnegie Foundation for the Advancement of Teaching: Medical Education in Europe, by Abraham Flexner. With an Introduction by Henry S. Pritchett. Bulletin No. 6. Fifth Avenue, New York. 1912. (5s. 6d.)

Internal Secretion and the Ductless Glands, by Swale Vincent, M.D.Lond., D.Sc.Edin., M.R.C.S.Eng., L.R.C.P.Lond., F.R.S.S.Edin. & Canada. With a Preface by Professor E. A. Schäfer, F.R.S. Illustrated. London: Edward Arnold. 1912. (12s. 6d. net.)

The First Signs of Insanity: Their Prevention and Treatment, by Bernard Hollander, M.D. London: Stanley Paul & Co. 1912. (10s. 6d. net.)

Statistics of Puerperal Fever and Allied Infectious Diseases, by George Geddes, M.D., C.M.Aber. Bristol: John Wright & Sons, Limited. 1912. (6s. net.)

Aids to Tropical Hygiene, by Major R. J. Blackham, D.P.H.Lond., R.A.M.C. London: Baillière, Tindall & Cox. 1912. (3s. net.)

Insomnia: Its Causes and Treatment, by Sir James Sawyer. Second edition. Birmingham: Cornish Bros. 1912.

The Clinical Pathology of Syphilis and Parasyphilis, and its value for Diagnosis and Controlling Treatment, by Hugh Wansey Bayly, M.A., M.R.C.S., L.R.C.P. London: Baillière, Tindall & Cox. 1912. (5s. net.)

Leitfaden der Praktischen Kriegs-Chirurgie von Dr. Walter von Oettingen. Dresden: Verlag von Theodor Steinkopff. 1912.

Deuscièure Congrès de l'Association Internationale D'Urologie. Londres le 24-28 Juillet, 1911. Procès Verbaux, Rapports et Discussions. Publie's sons la Direction de John G. Pardoe, F.R.C.S. Londres: Adlard & Son. 1912.

GLASGOW.—METEOROLOGICAL AND VITAL STATISTICS FOR THE FIVE WEEKS ENDED 24TH AUGUST, 1912.

	Week ending				
	July 27.	Aug. 3.	Aug. 10.	Aug. 17.	Aug. 24.
Mean temperature,	58·3°	54·1°	54·8°	56·8°	53·6°
Mean range of temperature between highest and lowest,	14·4°	13·2°	12·8°	13·0°	11·0°
Number of days on which rain fell,	4	5	5	2	6
Amount of rainfall, ins.	0·88	1·10	1·63	0·23	0·71
Deaths registered,	220	235	228	222	197
Death-rates,	14·6	15·6	15·1	14·7	13·1
Zymotic death-rates,	0·6	0·5	0·5	0·5	0·5
Pulmonary death-rates,	2·5	3·4	2·9	2·8	2·5
DEATHS—					
Under 1 year,	43	55	49	44	38
60 years and upwards,	46	49	47	49	49
DEATHS FROM—					
Small-pox,	...	...	...	...	...
Measles,	1	1	3	2	2
Scarlet fever,	2	...	...	3	...
Diphtheria,	1	2	...	3	3
Whooping-cough,	2	3	4	9	1
Enteric fever,	2	...	...	1	...
Cerebro-spinal fever,	...	1	...	...	1
Diarrhœa (under 2 years of age),	20	21	22	13	8
Bronchitis, pneumonia, and pleurisy,	29	29	31	26	18
CASES REPORTED—					
Small-pox,	...	...	...	...	...
Cerebro-spinal meningitis,	...	...	...	...	1
Diphtheria and membranous croup,	38	39	23	29	37
Erysipelas,	17	16	15	24	17
Scarlet fever,	40	42	32	61	52
Typhus fever,	1	...	1	...	...
Enteric fever,	2	5	3	4	8
Phthisis,	34	43	35	49	54
Puerperal fever,	2	1	5	4	2
Measles,*	36	22	22	19	13

* Measles not notifiable.

SANITARY CHAMBERS,
GLASGOW, *28th August*, 1912.

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ORIGINAL ARTICLES.

CASE OF CANCER OF THE THROAT TREATED BY RADIUM.

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AND

JOHN H. TEACHER, M.D., F.R.F.P.S.G.,
St. Mungo (Notman) Professor of Pathology, University of Glasgow.

It is not our intention to give any critical summary of the action of radium in disease, nor to refer to cases published of its action on cancerous tissue. We all know that it is extensively used, and we are aware of the satisfactory results that have followed its use in the treatment, more especially of epitheliomata of the face. We wish merely to narrate a case that presented many points of interest, in which radium was tried. Its action for a time was followed by such marked improvement in the local condition that the possibility of recovery did not seem remote. The neighbouring parts, however, broke down from septic infection, and death resulted.

The case presents more than ordinary interest also, in that

Drs. Dominici and Warden, of Paris, had the case under their care, for it is not so long ago that these physicians brought before the profession in this country a series of remarkable cases of cancer apparently cured by the insertion of radium tubes into the cancerous tissue. Few cases of cancer of the throat, so treated, have been published, and even from this case we are inclined to the view that such a line of treatment in a septic cavity like the mouth is unsatisfactory.

J. M., over 60 years of age, had hæmorrhage from the mouth for the first time in June, 1911. This happened quite unexpectedly, and with no previous symptoms of throat disease, one day when he was in his club in London. He at once consulted the late Sir William Butlin, who discovered an inoperable cancer of the throat. There was malignant ulceration involving the right tonsil, right side of the base of the tongue, and the right anterior pillar of the fauces.

As no operative interference was contemplated, it was suggested that he should go to Dominici, in Paris, to try what radium could do for him. For the description of the subsequent treatment while in Paris we are indebted to Dr. Warden.

At this time there was no serious impairment of health: a sallowness of the complexion was regarded as natural in one who had spent so many years in India, but there were a few enlarged lymphatic glands in the right side of the neck.

At first Dominici considered the case hopeless, and did not advise treatment with radium, chiefly on account of the infected glands in the neck, and because the insertion of radium tubes might lead to septic infection of the cellular tissue of the neck.

He afterwards modified his opinion, and believed that if as many glands of the neck as could be reached by thorough dissection were removed, the radium tubes might be placed in fairly close proximity to the pharyngeal growth, without opening the buccal cavity, from the neck, and at the same time the lingual cancer could be treated by the introduction of a radium tube into the substance of the tongue. It was felt that this procedure held out but little hope of an ultimately good result; but considering that, with the facts laid clearly before him, the patient desired to try the treatment, and his friends were eager to seize the faintest chance even of a reprieve, it seemed worth attempting and justifiable.

Dr. de Martel performed the operation on 24th June, 1911.

The glands were dissected out, and four tubes of silver, 1 millimetre in thickness—each containing 50 milligrammes of pure radium, and wrapped in sterile surgical gauze five layers thick, were left in the wound, in as close proximity to the pharyngo-palative ulceration as possible, for forty-eight hours.

A similar tube, but unscreened by gauze, was inserted into the tongue at the base of the ulceration for thirty-six hours.

A good recovery from the operation was made, and the patient gradually regained strength, and in five weeks left Paris to complete his convalescence in Dover.

By that time a remarkable change had taken place in the throat condition, the triple ulceration in the tongue, tonsil, and faucial pillar having disappeared, and given place to a blanched cicatricial tissue closely approximating the normal appearance of the throat. This local regression was noted by all who attended him.

There had persisted, however, in the neck a hardness with a red brawniness of the skin that was extremely suspicious, and in September it became evident that this could not be attributed to inflammatory or radium reaction, but was due to the presence of tumour tissue.

A second operation was therefore performed on 19th September, in order to attack this continuance of the growth with radium. The cellular and muscular tissues of the neck were found (by microscopical sections) to be involved in a large malignant mass, which was adherent to the large blood-vessels.

The dissection of this growth, while thorough, was necessarily incomplete, and three radium tubes were again inserted, this time, however, lower in the neck, as it appeared unnecessary further to treat the throat growth, now no longer recognisable. The base of the tongue was, however, suspiciously indurated, and a tube, similar to that used on the first occasion, was inserted.

The patient returned to Dover *en route* for Scotland early in November. He was still weak, but the throat condition remained well, the one evidence of his illness being the cicatrices in the neck, which were still indurated and red.

One of us saw him on his return to Glasgow, and apart from the red brawniness of the tissues of the neck, he seemed remarkably well.

There was some difficulty in opening the mouth to its full extent, but the throat seemed quite free from ulceration or active disease.

A thorough examination was made of his organs generally. His digestive system, although feeble, was satisfactory: the heart sounds were normal; the lungs quite healthy; the liver normal in size. There was in fact no evidence of secondary disease in any organ. We may add here that his previous health had always been good, and the only illness of any account that he had suffered from was a tendency to gout, for which he repeatedly went to Bath.

On 19th December, as he was complaining of some pain over the neck, he was taken to Dr. Fullerton, who made a thorough examination of the throat. He made the following note:—

"Two points are noticed in the pharynx, which may be connected with the tumour for which he had been operated on: (1) A thickening of the soft tissues about and external to the right tonsil; (2) a thickening of the right side of the tongue posteriorly, together with that of the tissue extending from this region of the tongue to the right side of the pharynx."

He was seen by Dr. Fullerton a second time on 2nd January, 1912.

The note at this time referred to the thickening being slightly more marked than on the previous occasion.

Owing to the alteration in the condition of the throat and neck, it was deemed right to advise him to return to Dominici.

These notes show that there was considerable uncertainty connected with the true state of affairs in the throat, but they show that all ulceration had disappeared, and that at anyrate he was sufficiently strong to undertake another journey to Paris.

However, a few days later a marked change took place. He became feverish, his temperature rose to 102·5° F., and the neck became red, puffy, and painful. The picture was that of a diffuse cellulitis of the neck.

The mouth became more difficult to open, and he had more difficulty in swallowing.

Instead of going to Paris he was removed to a nursing home. The pain and swelling in the neck increased, and in a short time a phagedenic ulceration commenced in the throat. The breath was foul, and large sloughs broke away with a continuous oozing of pus.

Sir Hector Cameron saw the patient at this time, and his opinion was that a septic condition had occurred—septic from the mouth, where the teeth were decayed; but whether the sepsis was associated with cancer or not, it was impossible to say.

We are of opinion that possibly the radium tissue—the tissue that remained after the action of the radium on the cancerous tissue—was more susceptible to septic infection, and that the sepsis had originated in the septic mouth.

Hæmorrhages occurred, and each one sapped more and more the patient's strength.

Death ensued in a few weeks from a fatal hæmorrhage, but before this he had developed septic pneumonia at the base of the right lung.

In considering the events that happened in this case, two stood out most clearly:—

1. The extraordinary change that occurred in the throat by the action of the radium. All ulceration had disappeared, and a blanched cicatrix took its place.

2. The rapidly fatal termination at a time when things seemed in abeyance, the character of the change being a localised septic infection—not an increase in the growth nor a general metastasis.

The friends were anxious to have a *post-mortem* examination of the throat to see whether the cancerous tissue was destroyed, for that, to their minds, was the important point. The *post-mortem* examination was limited to the throat.

The following is the report of the *post-mortem* examination:—

The body was decidedly emaciated. Rigor mortis was strongly marked, and there was, in addition, a general hardness of the tissues about the right side of the neck centering around a cicatrix below the angle of the jaw. The mouth was fixed with the incisor teeth about a quarter of an inch apart, as had been the case during life.

In stretching the neck for purposes of dissection the cicatrix was torn open, revealing a large cavity full of black sloughs, which came quite close up to the surface.

The whole contents of the upper part of the neck, including the tongue, larynx, pharynx, soft palate, and an area of skin, including the cicatrix, were dissected out and placed in 5 per cent formalin solution.

The dissection failed to reach the roof of the sloughing cavity at the uppermost part of the pharynx.

The cavity was of very irregular shape, widely open to the pharynx and posterior part of the mouth, and approached within a quarter of an inch of the external cicatrix, which was intact. The upper and posterior limits could not be defined, but it involved a considerable part of the lateral and posterior wall of the pharynx. It extended forwards about a third of the length of the tongue, producing considerable ulceration of its lateral surface, and sloughing of the submaxillary gland. The lower border was about the level of the edge of the glottis. The tonsil, both pillars of the fauces, and the right side of the pharynx were completely destroyed. Their place was occupied by masses of black sloughs, and would have held a walnut. There was no tumour recognisable with the naked eye, but beyond the edge of the slough there was an ulcerated surface on the soft palate, which looked rather like the edge of a cancerous ulcer. In this, tumour was found with the microscope. The body of the stylo-hyoid muscle, the submaxillary gland, and some large blood-vessels and nerves could be made out among the sloughs.

The connective tissues external to the common carotid artery felt very firm and were very white, but had not evidently the characters of tumour. The firmness and whiteness were very marked just below the level of the sloughing cavity, and here the tumour was subsequently found.

The carotid artery was slit open from below. The common carotid appeared normal, apart from some senile change; but the external carotid was blocked by thrombus, about a quarter of an inch above its origin, and its main trunk was lost among the sloughs. The internal carotid, about half an inch above its origin, was softened, and for a distance of about half an inch its wall was in a more or less sloughing condition, where it passed through the outer part of the cavity. Above this, again, it appeared normal.

There was no thrombus, and we have no doubt that the final hæmorrhage was due to rupture of the necrotic portion of the wall of this artery.

Microscopic sections were prepared from seven portions of the wall of the cavity and the indurated tissues along the carotid artery lower in the neck in two distinct situations. Three of these show the presence of a cancerous tumour. This is a soft epithelioma, such as is frequently seen in the tonsillar region. The character of the cells suggests origin from squamous epithelium, although there are no horny epithelial cell nests. The larger tumour masses show a tendency to central necrosis and the formation of small cavities containing pus. This is a natural condition often seen in such tumours. All the masses of tumour appear to be healthy and active. No tumour issue was recognised among the sloughs. There was a small patch of tumour towards the margin of the ulcer on the soft palate, and in the same section a process was found deep in the soft palate, apparently permeating the lymphatic channels around a blood-vessel of considerable size. There was no tumour in a section taken from the tongue, or in another taken from lower part of the cavity beside the glottis, or in the external walls of the cavity; but the white tissue external to the carotid artery, and a short distance below the cicatrix, contained considerable masses of tumour.

The sloughs showed complete absence of inflammatory reaction, as if they had simply been killed rapidly. They were full of bacteria of many kinds. The more resistant structures, namely, blood-vessels, nerves, and muscles, could still be recognised. The external carotid, and parts of the internal carotid, showed this necrotic character.

Separating the sloughs from the living tissue there was a well-marked line of demarcation crowded with leucocytes, and external to them there was a zone of somewhat fibrous granulation tissue. Fibrous cicatricial tissue in abundance extended for a considerable distance among the connective and muscular tissues surrounding the cavity. The muscle fibres showed atrophy. The vagus nerve at one point passed very close to the margin of the cavity, and had undergone a certain amount of necrosis on one side.

Conclusions from the specimen.—It is clear that the tumour had not been entirely destroyed, a few small outlying processes remaining to all appearance active and capable of further growth. The sloughing was clearly the result of bacterial infection. Possibly the cicatricial character of the tissues favoured the spread of this infection and the necrosis due to it.

General conclusions drawn up with regard to the history of the case.—The radium had destroyed all the main pharyngeal growth, and healing of the mucous membrane took place over the whole area occupied by the tumour within two months. Three months later a small portion of tumour had reasserted itself in the soft palate, and, after death, tumour tissue was also found in the neck about the lower border of the field of operations. Death was due to septic infection of the throat which produced sloughing of the large arteries in the neighbourhood. The proximity of a septic surface like that of the mouth constitutes a source of danger to the cicatricial tissue left after radium action: but the same may be said with respect to tumour tissue. The final catastrophe, therefore, can hardly in fairness be attributed to the radium. We think the treatment probably prolonged J. M.'s life, and certainly it greatly relieved his symptoms.

After the examination, a report was sent to Dominici with our views therein expressed. He has sent us his view, which we think should be published along with our report. He says:—

"1. If hæmorrhage could take place under the influence of radium applied as I have always indicated, it could only be owing to the wall of a vessel, for some distance, being transformed into cancerous tissue. The disappearance, under the influence of the radium, of the cancerous tissue replacing the vessel wall, would necessarily allow of the passage of blood. Such a phenomenon is extremely exceptional, because if there is even a small amount of connective tissue round the vessel it is respected and spared, as it were, by the radium. If hæmorrhage then takes place, it can only be in the few weeks immediately following the action of the radium.

"2. I am convinced, from the description given by Dr. Souttar M'Kendrick and Professor Teacher, that the hæmorrhage, in the present instance, was consecutive to the double action of cancerous infiltration and phagedenic ulceration, due to a bacterial infection causing necrosis of the neighbouring tissues."

SOME PHASES OF ARTICULAR AND MUSCULAR RHEUMATISM.

BY JAMES CRAIG, L.R.C.P. & S.E., &c.

IN general practice one is continually coming across cases which cannot be exactly pigeon-holed in our medical vocabulary under any particular letter. One is not long in finding out that the disease with classic symptoms is not the one most commonly met with in general practice. Of course, the average young medico is enthusiastically hunting for the abnormal and the unusual in disease, and it does not surprise him when he strikes a bit of luck in the early years of his medical wanderings. His text-book standardisings of disease are all fresh and visible to his mental perception on account of so recent a contact with them, but he often receives a rude shock when he finds his treatment valueless, or, mayhap, aggravating some of the symptoms he is doing his utmost to suppress. "Every bullet does not find its billet" when we are not accurate in our diagnosis.

Moreover, there are so many symptoms common to many diseases that it is often almost impossible to make an accurate and definite diagnosis. In tubercular meningitis, for instance, amongst children, what a confused welter of symptoms we sometimes get! This hydra-headed disease is undoubtedly the graveyard of many brilliant and promising medical reputations. Its pitfalls are too numerous to be guarded against, and one has often to go back six months for the date of the earliest symptoms. An intelligent and closely observant mother, with a correct account of the history, can often put one on the track very early; but woe betide the accuracy of the diagnosis when one has to depend on one's own casual observations combined with the emotional story of a hysterical mother.

Again, take abdominal symptoms in the adult, and how characteristic of many different diseases they all are! To what a number of ailments do we ascribe the two symptoms of vomiting and pain in the abdomen, and yet, strange to say, how frequently the more acute and intense these symptoms the less serious are they, and the more easily relieved. In the abdominal condition, which is less intensely painful, but leaves its mark early in the facial expression, namely, generalised peritonitis, the outlook is more grave, and the ultimate issue less likely to be favourable. Moreover, in cases of lumbar pain, what an extremely large group of different diseases we may have—from simple lumbago to spinal caries, or to abscess of the kidney resulting from renal calculus.

In all this we are led on by gentle gradation to the manifold symptomatology comprehended under the one word "rheumatism." When the various symptoms are closely observed and accurately tabulated, one may find that one is not dealing with a disease *sui generis*, but with a congeries of diseases, whose limitations have to be mapped out on the basis of their causation or the particular parts of the body they affect. In acute rheumatism we have a group of symptoms singularly intelligible and well known generally, and in which the causative factor of heredity plays a most important part.

In these modern days it is customary to flout the doctrine of heredity as a predisposing factor in disease, and to look around for predisposing and exciting causes in the environment of the patient himself. Instead of trusting to observation in the belief that the pig makes the sty, we are roundly declaring, in *ipse dixit* fashion, that the sty makes the pig! But no general practitioner who has carefully studied his individual cases and unwound the tangled skein of disease causation—especially in relation to acute rheumatism—can ever adhere to such a position.

The longer one lives and practises medicine the more convinced does one become that the hereditary element plays a very important part in the production of rheumatism. In Scotland here we get a great deal of rheumatism with histories of the disease in both parents for generations back, and it was no doubt on this ground that Maclagan based his malarial theory of the causation of rheumatism. The literature of the subject is full of it, and even at the present day these Northern parts, and the whole Scandinavian peninsula, supply great numbers of cases in a subacute form. Previous generations seem to have been thoroughly saturated with the poison which now manifests itself in the present generation in rheumatic purpura and chorea in the young, and in chronic bronchitis or winter cough and chronic neuritis in the aged. The glens and straths of Scotland are full of such forms of rheumatism.

In my schooldays, when I was not much interested in medicine, I remember the aged and respected doctor in the district calling on an old lady when I was staying in that house. It was the doctor's first visit, and, when he had completed his examination of the patient, she asked him what was the matter with her. He replied that it was simply her bronchitis again. To this she replied, "How can I have bronchitis when I am never far from the front of the fire?" To this expression he made no reply, but laughed. This old lady had chronic rheumatism for years, and could only move about the house with difficulty; but when her bronchitis intervened, her rheumatism improved and her joints got supple, and she could move about with greater freedom.

One sees the same thing now in many old people. Most of the winter bronchitic affections are the result of rheumatism, and, with a free carrying-off of the bronchial mucus, a great improvement takes place in the arthritic conditions. The rheumatic poison—whatever it is—seems to find egress in this way, and this accounts for the general improvement. All these cases do better on the alkalies, or even on magnesium sulphate alone, than on any form of expectorant or sedative mixture. Ofttimes the distress is so great at first as to demand some form of expectorant sedative, but a more lasting improvement is got from the saline or the alkalies, and it is always wise to finish up with these things.

One sees many children affected with tonsillitis in early life, and the repeated attacks enlarge these glands so much that they have to be cut or enucleated sooner or later. If one watches the after-histories of these cases, one will frequently find that these children have arthritic rheumatism in adult life, and the cycle of tonsillar affections disappears. The early tonsil condition is a rheumatic phase, and it is not infrequently associated with chorea.

When the British Medical Association last met in Edinburgh, Dr. Lees, of the Great Ormond Street Children's Hospital, read a paper on chorea in which he strongly advocated its rheumatic origin, and he mentioned this interesting fact as further proof, viz., that in London he never failed to find rheumatic nodules on the fingers and toes of his choreic patients. These rheumatic nodules are not often found in choreic patients in Scotland, and further observations were made on choreic children in hospitals, dispensaries, and private practice, but there was almost an entire absence of these rheumatic nodules. In London on several occasions we have been able to verify the statement of Dr. Lees. It amounts to this, then, that in one form of rheumatism the Celtic child differs from the Saxon in this respect, and it is astonishing to find such differences in disease in the short journey of 400 miles. There is work here for some one who will investigate the modifications induced by the geographical distribution of disease.

On the Continent one sees these modifications most marked in the case of phthisis pulmonalis. In Spain, Germany, Italy, and France one sees the acuteness of the condition most marked in fair people, while the dark and lethargic members of such races go down in a more chronic form. In Cape Colony scarlet fever amongst the negro population is a very benign disease, and many of the patients never take to bed with it, so that they spread it in the homes of the whites where they do the work. In like manner rheumatism is very much modified or almost unknown in certain parts of these countries, and this is the reason why the type of certain diseases is very different to different observers. Again, the rheumatic cases one sees at an hospital dispensary are very different from those seen in private practice. Indeed, one's early training and experience are altogether amongst the major and more aggravated forms of rheumatism.

One very large and important group of rheumatic cases which I shall now deal with is what I shall call the "dyspeptic" group. It is not the ordinary form of stomach indigestion with pain, sickness, and vomiting. Those cases very seldom show any rheumatic phase where the food is not retained. The dyspeptic form of rheumatism occurs in healthy, well-nourished subjects with good appetites, but with some inherent difficulty in getting rid of the material from the bowels, thus constituting what we shall call "bowel dyspepsia." These patients come complaining of pains in various muscles or nerves or joints. They deny any rheumatic history or any previous tonsillar affection. They have no pain or discomfort with their food, and they may even tell you their bowels are regular, although you feel hard and movable masses in the ascending, transverse, or descending colon. Imperfect bowel evacuation is one outstanding condition of this rheumatic phase. One may even get diaphragmatic pleurisy or slight attacks of appendicitis amongst these patients, but the appendicitis here is not liable to abscess formation as in the case of young tubercular subjects. The appendical inflammation is temporary, and is due either to irritation by the scybalous masses, or to absorption of the rheumatic poison suddenly set free in the blood-stream.

Just now I have a case of converse conditions. A patient of 13 years, with a bad rheumatic history on the mother's side, had an attack of appendicitis about a year ago which lasted three weeks. She has had more or less dull boring pain in the right iliac region ever since, and constipation has been more marked. It was resolved to cut down and remove the appendix and break up the adhesions, and this was done about three weeks ago. On the day after she had left the hospital she had a slight rigor, with pains and swellings in both knees and ankles and the fingers of the left hand. Her temperature went up, and the heart's action became excited, with reduplication of the second sound, and all her symptoms indicated an acute rheumatic attack. The surgical wound was quite healed. The appendicitis and acute rheumatic fever were of the same rheumatic origin.

The pathology of such a condition can only be explained on the assumption of bowel stasis and the reabsorption into the body of some organic poison produced by the retention of the sewage material in the system. The nervous sick headache, aye, even the peculiar mental excitement, and the mild forms of lunacy induced by constipation alone, can all be explained on this theory. Calomel and jalap, or, better still, calomel and scammony, are the drugs *par excellence* which "can minister to a mind diseased." The poison is evidently in the retained products of digestion, because when we get rid of this disturbing element we rid ourselves of the symptoms.

In many of these cases I have seen a lumbago or a sciatica combined with an erythema nodosum, and the latter is very intractable, unless free purgation is indulged in. But even with free purgation for sometime one fails to dislodge many of these fæcal masses. In the case of an old lady, of 72 years, complaining of pains in the lower jaw in the distribution of the lower division of the fifth nerve, pains in the cervical plexus over the shoulders, and sciatic pains in the left thigh and front of the tibia, and which I at first thought to be a case of senile neuritis, I found a large hard mass of fæcal material in the transverse colon. A consultant who saw the case with me started the theory of neoplasm, but I held to the fæcal view and treated her accordingly; first, with small doses of castor oil, morning and evening, and latterly with hydrarg. cum creta, 2 grains; sodæ bicarb., 4 grains; pulv. rhei., 2 grains—one such powder in milk every four hours. It was exactly three weeks from that date, although gradual improvement otherwise was taking place, that I was called hurriedly to her with a rectal obstruction. I had to break down this huge mass in the rectum mechanically, and finally got rid of it by oil enemata, as it had brought about complete rectal paralysis by its size and pressure. Needless to say the other symptoms disappeared, and she got quite well, but the routine treatment since has been one or two teaspoonfuls of Epsom salts in a quantity of hot water, just sufficient to dissolve them, taken the first thing in the morning. In this way I have kept in check the tendency to constipation, and the formation of the poison which seems to bring in its wake a whole tribe of rheumatic neuritic phases combined with muscular rheumatism.

In the young subject, again, with any tendency to acute rheumatism, this bowel dyspepsia is frequently the forerunner of the acute attack. The patients are brought to you by their parents already labelled as suffering from what in Scotland is called "growing pains," and when you enquire into their history you find evidences of this dyspepsia having been present for a considerable time. Although the pains are slight and transient you may have well-marked symptoms of cardiac disease present, or even extensive pericardial mischief with fleeting pains over that area. In some cases the pains are mostly confined to the lower extremities, chiefly the feet, and are worse in the morning on rising from bed, gradually disappearing on movement throughout the day, but becoming bad in the evening again. If they are put on anti-rheumatic remedies at once, say sodium salicylate, the symptoms often become aggravated and the temperature goes up suddenly to 103° or 104° F. In such cases it is my practice to begin with powders of sodæ bicarb., pulv. rhei., and hydrarg. cum creta in the same doses and at the same intervals as previously mentioned.

I also give unlimited quantities of diluents, such as barley water, with drachm doses of cream of tartar to the 10 ounces. In this way the kidneys and other secreting organs are stimulated to increased activity in throwing off the rheumatic poison, and the bowel is equally stimulated by the powders to throw off the superfluous *débris* there.

In some cases where much mucoid material is shed with the stools, I order large saline enemata to be given slowly morning and evening by an ordinary can douche, where the process of injection can be regulated by the stopcock attached to the apparatus. This proceeding is much used in some fever hospitals, with satisfactory results, in cases of enteric fever, and seems to get rid of a great deal of the poison.

Doses of calomel, or blue pill, or castor oil are given in the morning, and the douche in the evening, to facilitate thorough flushing and irrigation of the bowel. I have found the treatment satisfactory in bowel indigestion where there is a suspicion of rheumatism as a sequel. In mucous colitis this plan works admirably, as one gets rid not only of the mucus but also of numerous bacteria which are present.

I have seen lavage of the bowel give considerable relief to many of those forms of sick headache so frequently met with in rheumatic subjects—a headache which usually begins on rising in the morning and gets gradually worse till breakfast is over, and then subsides with the routine duties of the day, especially when these duties call for considerable muscular activity in walking or otherwise. The increased glandular activity seems to act as a derivative from the head of the morbific material which is irritating the delicate texture of the brain.

In such cases oral sepsis should not be disregarded. We know now that a septic condition of the mouth and teeth plays a large part in the origin and continuance of certain forms of anæmia, and that a thorough and frequent cleansing of the mouth and teeth, with the extraction of bad roots and cavernous teeth, improves considerably many cases of pernicious anæmia. I have seen numbers of cases of ordinary anæmia cured by the dentist alone without any drug aid whatever. So strongly am I convinced of this fact that I make a routine inspection of all mouths as a preliminary to the treatment of anæmia. In many cases the only treatment necessary is complete buccal antisepsis.

In my experience I find large numbers of rheumatic subjects with bad teeth, and more especially those patients who exhibit those peculiar forms of rheumatism which I have described under the heading, "bowel dyspepsia." The primary origin of the condition may be in the mouth, and be carried down the digestive tract by the saliva or the food. The haphazard and inefficient methods of many even very intelligent persons in cleaning the mouth and teeth are greatly responsible for this condition. I find numbers who simply use hot water and salt for rinsing the mouth at distant intervals when they are threatened with toothache or tenderness of the gums, with aphthous patches on the mucous membrane of the cheek and lips. Others, again, use camphorated chalk very freely with the toothbrush, or some of the numerous tooth pastes and powders made up of highly perfumed materials which are of no real value as antiseptics.

People are afraid of carbolised powders or paste, and, consequently, do not get the mouth cleaned so thoroughly as they should do.

It is in details such as these that the physician's advice is most useful in getting all the little matters attended to which count so much as factors in the production of these phases of rheumatism. In one case in particular I remember the patient had a very septic mouth. She had a temperature of 101° F., with severe swelling of the larger joints of the upper and lower extremity, and had only been in bed two days. When I asked her how often she cleaned her teeth and mouth she candidly confessed she never did such a thing. Two days after my first visit painful nodules of erythema nodosum began to appear, first on the one leg and then on the other, ultimately coalescing in such a way as to give the appearance of erysipelas. Indeed, if certain other symptoms had been absent, and the doctor had only seen the limbs, one would not have censured him for diagnosing it as a case of erysipelas. I believe this condition must be frequently mistaken for it, as in a recent case where the patient told me she had been previously treated for erysipelas, and she maintained this was the same condition. This patient also had a bad condition of mouth and teeth, but she told me she cleaned her teeth regularly with camphorated chalk. In both these cases I got rapid improvement by mouth cleansing and milk dietary.

In all these cases I think a milk dietary the most suitable one, but one has to enter into detailed explanations here also as to what one means by a milk dietary. If you simply prescribe a milk dietary the patient usually begins by drinking half a pint or a pint of cold fresh milk without a breath, and when the casein mass forms in the stomach and gives them unpleasant sensations, they loudly blame you and your dietary, and tell every succeeding doctor that milk does not agree with them. My experience is that milk disagrees with very few people if properly administered, and this is where detailed advice is so essential. Even in the application of moist heat in the form of poultices detailed advice is very necessary, unless you have a good nurse. I find many people who cannot make a poultice, and it is a good plan to demonstrate it to them. In giving milk it is always better to advise them in homely language as to the degree of dilution required. Milk diluted with barley water, ordinary water, soda or potash water, is the best dietary for these rheumatic phases where digestive disorder plays the most important part. If you are handicapped in feeding them by the bad condition of the mouth and teeth, no solid food should be given at all, as the imperfect mastication of such food is bound to increase your difficulties.

Most writers on psychology are now agreed that the family histories in mental cases are largely made up of rheumatic ailments. In Scotland at least, it is said, that most lunatics there have a rheumatic history in one or both parents. The tendency to nervous lesions, then, must be greater in rheumatic subjects than in others, and it is a common observation that rheumatic women are more prone to an acute or chronic neurosis at the climacteric period. Many troublesome neurasthenics are drawn from this class at this particular time. A word from the doctor regarding any transient heart weakness is quite sufficient to put them in bed, and make molluscs of them for the remainder of their lives. We cannot be too careful of our language before such patients, as they fasten upon it at once and read the worst out of it.

Many minor forms of neurasthenia are started at this period, notably sleeplessness from over-anxiety, and the absence of this sleep, or food of the brain, aggravates the whole series of symptoms. Not only do I use anti-rheumatics and magnesium sulphate here, but I begin with a bromide mixture to facilitate sleep and soothe the nervous excitement—

℞.—Potassii bromidi,		℥ii
Ammonii bromidi,		
Sodii bromidi,	āā	℥ss
Chloralis hydratis,		ʒi
Syr. simplicis,		℥i
Aq.,	ad	℥vi

Sig.—A tablespoonful every three or four hours in water.

With a mixture such as the above we get an immediate improvement in the most distressing symptoms. and we allow our other remedies time to work the more permanent improvement. The after-treatment of such cases is always fraught with considerable anxiety, as you are not likely to have their complete supervision.

In rheumatic subjects we get the whole gamut of neurasthenia at times, from the mild to the gross and the complicated. Mentally they are not strong in their judgments or obstinate in their opinions, but their fancies and caprices are Puck-like in their extravagance. They can be very easily influenced. The Scots have a saying very applicable to them, which sums up much of the rational treatment: "Lead them, but do not drive them." Rheumatic neurasthenics I consider the most hopeful of all neurasthenics, although you may have more frequent relapses when the poison collects in the system again. Still, the prognosis is more favourable than in other forms of this disease. One has to study each case on its merits and put right whatever is wrong, while keeping the patients in the brightest and cheeriest of surroundings. A *placebo* of some kind is absolutely necessary in most cases to impress their minds and keep their will-power free from nervous thraldom. Dr. Byrom Bramwell's method of injecting H_2O occasionally hypodermically is a very serviceable practice.

The "bowel dyspepsia" so much referred to in other parts of this paper needs special attention. In addition to the magnes. sulph. or sod. sulph. as a morning draught, gentle massage of the abdomen morning and evening is a useful adjuvant. This treatment often appeals to them as ordinary drug treatment cannot do, and undoubtedly these poor creatures must be sympathetically dealt with, and have all their subjective symptoms patiently listened to, and their difficulties removed or explained; otherwise the most prolonged treatment will have no effect whatever. To adopt harsh or stern methods of treatment in such cases is to court failure and obloquy. The rheumatic patient is unduly sensitive and nervous and self-conscious, and even shaky in the hand when it is put forth in an effort to do something. The vasomotor system is frequently excited to palpitation, blushing, or pallor; and all these states are to be found even when there is no active rheumatic symptom present.

The fact that this latent condition can be lighted up, and bring about serious mental aberrations in the rheumatically nervous subject, through the presence of fæcal masses in the bowels for a prolonged period, seems to prove that the rheumatic poison originates in some derangement of the digestive system. The soil of the rheumatic patient seems favourable to the development of the poison from the undigested products of the alimentary tract. In every disease two necessary factors are the seed and the soil, and in this way rheumatism resembles very much tuberculosis. Indeed, the greater part of almost all diseases might be explained under these two heads of causation,

We are all continually inhaling or coming in contact with tubercle bacilli, but we are, fortunately, not all possessors of the tubercular diathesis. In the same way, I have no doubt, we all frequently generate the rheumatic poison in our bodies: but the manifestation of that poison outwardly in symptoms is very different in different individuals, and will be modified accordingly as the poisonous effect falls upon the nervous, muscular, serous, or skin tissue. The brunt of the disease will fall upon the weaker organ. Many rheumatic subjects never have any other form of the disease than rheumatic iritis, and the experience of many others is simply that of a persistent lumbago or sciatica. By changing to warmer latitudes and drier regions, such as are found in our colonies, many of these people are preserved throughout life from any further attack. The environment and newer surroundings, with more easily digested food, seem to ward off any tendency to the production of rheumatism.

In conclusion, then, let me say that I have tried to show that the term "rheumatism" sums up rather a congeries of diseases than a specific disease *per se*, and this I have tried to do by drawing upon my experiences and observations of the last twenty years. I have touched upon the literature of the subject very lightly for confirmation, as this would unduly prolong the paper. A general discussion of "the phases of rheumatism," founded upon observation and experience, is more a desideratum than any detailed enquiry into the pathology of the subject. The probabilities are that, as we are dealing with a disease which has many and varied phases, we shall find the cause not in one specific thing but in a multitude of these. We seem to me to be much in the same position as Dr. Budd, of Bristol, was when he set about his enquiries to separate typhus from enteric fever. We have a specific and classic disease in acute rheumatic fever, endocarditis, pericarditis, and rheumatic iritis, but outside these there is a whole group of different diseases manifesting themselves in the same subject, which will require a more complete and detailed investigation. Why does the rheumatic poison manifest itself in the aged in the bronchial glands and leave the joints? Why does it show a preference for glands in the aged when these structures are the preliminary outworks for the attacks of tuberculosis in the young? Why should it invariably invade the nervous system in some form or another?

These and kindred questions strike us, and suggest others, as we push along the path of observation and experience into the vague and darkly illuminated jungle of disease. But the precise statement of a problem is often the halfway house to its solution, and if we have stated the problem correctly and interpreted the phenomena accurately, then we will have contributed something to what may ultimately assist in its solution. That these problems will be ultimately solved "there can be no shadow of a doubt whatever."

In a world of ceaseless change, new facts everywhere have to be gleaned and garnered, and one cannot afford to discard the smallest detail. In earlier days, when human beings were satisfied with simpler living and simpler foods, this rheumatic problem could not have been so acute.

It is incumbent upon us now to enquire into all these changed conditions of life. Before the days of scientific cooking and the making of dainty and palatable dishes, with all the garnishings of spices and sauces. men were content to eat their homely fare until they were satisfied. The tickling of the palate and the appeal to savoury tastes were entirely absent in those days, and, consequently, there was no desire to eat more than satisfied the ordinary wants. Nowadays men eat more than they can digest, because they are tempted to do so by the high art of the cook in making the act of eating more pleasant. The pleasures of the table appeal to too many of us, and that is why the diseases of digestion, and the rheumatic phases which come in their train, are exacting their full toll of victims from the bad habits of the age.

Adams, I think, tells us in his Roman history that the pleasures of eating appealed so much to the Roman at one time that, after the elaborate cæna or suppers in vogue, the Roman used to retire somewhere and use an emetic, and then return to the supper party for the mere pleasure of eating. One does not hear of these customs prevailing here, but it is remarkable that all ages of luxury are liable to the same bad habits—indeed, the majority of us eat more than we can conveniently digest : even sick people are worried often by their attendants to over-eat themselves, so that it behoves us "to mark, learn, and inwardly digest" all the habits and customs of poor, frail humanity, and endeavour to find some *modus vivendi* more in accordance with physiological law, and less likely to bring in its wake a set of diseased conditions which only swell the already too large number of phases of rheumatism.

THE DIAGNOSIS OF CHRONIC GONOCOCCUS INFECTIONS.[1]

BY DAVID WATSON, M.B., C.M.

IN the diagnosis of an acute gonorrhœa ample evidence is usually furnished by the clinical symptoms, but in subacute and chronic inflammation of parts liable to invasion by the gonococcus we may require the aid of all other known means of investigation to ensure a reliable diagnosis. The subject is too large to go into in much detail in the time at my disposal, but I wish to emphasise the necessity for accuracy in determining the presence or absence of the gonococcus so far as this is obtainable. Not only is it the guide to treatment, but it is of vital importance in indicating the advice we should give to a patient when asked whether he may safely marry.

That a chronic gonorrhœa can exist for some years with few, if any, symptoms to attract the patient's attention is now a well established fact. Certain forms of excitation, *e.g.*, excessive sexual excitement or indulgence in alcohol, are capable of producing an exacerbation of the disease. The condition may cause little or no inconvenience to the patient, and on that account few cases in this country come under medical treatment until they are accused of having communicated infection, or have been alarmed by reading some book usually of questionable authority on the subject.

If, when consulted by a man who is visibly distressed because of the presence of threads in his urine, or a trace in the morning of gluey secretion at the meatus, we learn that the preceding gonorrhœa was contracted several months previously, we are prone to conclude that the gonococcus has died out, and that the trifling symptoms are only post-gonorrhœal and non-infective. We dread lest any local interference should encourage the development of sexual neurasthenia, and we give the patient what he seems to stand most in need of, assurance that he has been unnecessarily alarmed, and that his symptoms are negligible. Such advice may be right, but unfortunately it is more likely to be wrong. A large percentage of these cases still harbour the gonococcus quiescent, unless transferred to a fresh soil or until conditions favourable for its spread arise, when it awakens to renewed activity. Nothing should deter us from a thorough examination of such a case, and the adoption of whatever treatment is found necessary, and this is the only course which will permanently satisfy the patient, and relieve his mind of the revolting feeling of uncleanness.

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[1] Read at a meeting of the Medico-Chirurgical Society of Glasgow held on 12th April, 1912.

In such cases our diagnosis will depend upon the information supplied by the history, the clinical signs and symptoms, and by bacteriological investigation.

As regards the history, there will usually in the case of men be admission of an acute gonorrhœa preceding the present symptoms by months or years. On the other hand, there may be denial of any antecedent gonorrhœa, and even exposure to infection may not be admitted. In the female it is rather the rule than otherwise to meet with cases of chronic infection in which no antecedent acute condition has been noticed. In the male, the gonococcus may occasionally be isolated from the urethras of patients who have never had any of the gross symptoms of gonorrhœa. These "gonococcus carriers" are all the more dangerous because they are unconsciously a source of infection.

The subjective symptoms and the ordinary physical examination of the patient supply many of the data on which our diagnosis is founded, and, in fact, we may have to rely solely on these data in conjunction with the history of the case, as the bacteriological examination in occasional cases may not carry conviction. There is, however, no individual symptom which is characteristic of chronic gonorrhœal inflammation as opposed to chronic inflammation of other origin.

Chronic gonorrhœa in the male may have its seat in the anterior or posterior urethra, the prostate, or the vesiculæ seminales.

Chronic anterior urethritis is evidenced by a small quantity of mucoid or muco-purulent secretion, which during the night seals the meatus, from which in the morning a minute viscid drop can be expressed. In the two-glass test, threads and flakes of muco-pus are seen in the first glass; and in the five-glass test, in which there is a preliminary washing out of the anterior urethra into the first two glasses, the threads are again found in the first glass. Examination by the urethroscope may show some small areas of reddened and altered mucous membrane, or the ducts of some urethral glands may appear inflamed, or perhaps a para-urethral passage may be found which is the seat of the continued infection.

When the symptoms point to the posterior urethra as the seat of the trouble, the prostate is always more or less involved, and not uncommonly the seminal vesicles are also implicated. By a rectal examination the condition of these organs should be determined. Practice is required in this examination to educate the sense of touch to discriminate between normal and abnormal conditions. In addition to hypertrophies the consistence of the tissues has to be estimated, areas of softening localised, and the contained secretions have to be expressed for bacteriological examination. The prostate can be thoroughly and easily examined with the gloved finger if the patient adopts a suitable posture. Kneeling on a couch with the elbows resting on a stool gives good access to the prostate. Each lobe can be carefully palpated, and with practice the vesiculæ seminales may also be felt lying to the side of the prostate, and extending upwards and outwards for an inch and a half to two inches. In the separate glass test the last portion of the urine passed may show threads, flakes, and a trace of muco-pus, as it contains such secretion as may be forced from the prostate and other glands in the last stage of micturition.

In the female the only complaint may be of muco-purulent discharge, or there may be dyspareunia, vesical irritation, or symptoms of tubo-ovarian inflammation. Attention should first be directed to the external parts, and especially the Bartholin ducts and the urethra. Reddening of these orifices and whether pus can be expressed therefrom should be noted, the reaction of the vaginal secretion should be taken, the physical characteristics of the discharge observed, the parts cleansed, and the vaginal walls should then be inspected for areas of reddening, granular formation, ulceration, or erosions. Through the speculum similar observations are taken of the cervix and its secretion, and finally, the uterus, tubes, &c., are examined bimanually.

Having gained by these means all the information possible, we may be in the position to form a diagnosis, but scientific exactitude can only be reached when positive results follow the search for the gonococcus.

To prepare a smear from the male urethra, cleanse the external parts, and while the meatus is pressed open pass a small bulbous-pointed probe wrapped with sterile cotton wool into the urethra, and smear the secretion so obtained on a thin glass slide. When the condition of the prostate or vesiculæ seminales calls for investigation, these organs should be massaged, and their secretion pressed into and along the urethra, while the patient aids by expulsive efforts, previous to the application of the swab.

In the adult female, material should be taken from the urethra and the cervix. After cleansing the parts with sterile water, the urethra is treated as in the male. The cervix is displayed with a speculum, the external os wiped clean with wool, and the cervical canal is once or twice gently but firmly swabbed free from secretion and surface organisms. A fresh probe carrying sterile wool is then used to collect the material from the lining epithelium of the canal, and this is applied to a slide.

The smear when dry is fixed by passing it three or four times through the flame of a spirit lamp, and is thereafter stained by the Gram process, or preferably by Weigert's modification of Gram's method.

Under the oil immersion lens the appearance of the smear will vary according to the site from which it has been obtained. The smear from the male urethra will consist of mucous, epithelial cells, leucocytes, and various micro-organisms. The normal urethra has been said to entertain as many as sixteen varieties of saprophytes, which remain innocuous until inflammatory processes are set up either by mechanical irritation or by the gonococcus. These include the bacillus coli, staphylococci, streptococci, &c. One Gram-negative diplococcus, which is not the gonococcus, is found in four to six per cent of urethras: another diplococcus, not, however, Gram-negative, is frequently found in the male urethra: but for all practical purposes the discovery of a Gram-negative, coffee-bean shaped, diplococcus is diagnostic of gonorrhœal infection. The possibility of confusion with another organism with the same morphological characters to be found in this locality is so remote as to be negligible. Degenerated cocci differing from the normal coccus in shape, size, and staining properties may be seen in convalescing and chronic cases.

The urethral smear in women may be positive even when the cervical smear has failed to give positive evidence. Smears from the cervix are sometimes very mixed, especially if the preliminary cleansing has not been thoroughly carried out. The bacillus of Doderlein is the prominent figure in a smear from the healthy vagina, and a few are usually seen in a cervical smear. Under the microscope the Doderlein bacillus is seen to be a Gram-positive organism, occurring singly as well as in short chains of from two to four. A vaginal smear showing numbers of these large bacilli, and but few other organisms, is suggestive of a healthy condition of the parts. It is a serious drawback to rigorous antiseptic treatment that it entails destruction of this organism, although the substitution of the lactic acid bacillus is of considerable value in counteracting this difficulty. The other organisms that may be encountered are for the most part Gram-negative large and small bacilli, and Gram-positive cocci. In addition to the ordinary pyogenic staphylococci and streptococci, the micrococcus catarrhalis and pneumococcus are occasionally, though rarely, found. The bacillus coli is one of the Gram-negative bacilli frequently present, and bi-polar staining, which it sometimes shows, may give it an appearance suggestive of the gonococcus.

Gurd has described a "diplococcus vaginæ" which is commonly present in vaginal smears. It is short, thick, somewhat lanceolate-shaped, and occurs in pairs with the broad ends approximated. Being Gram-negative, it has a superficial similarity to the gonococcus. Innumerable other organisms, many of them chromegenic, are found in vaginal smears. Some member of the micrococcus catarrhalis group, commonly found in the respiratory passages, may on a rare occasion be met with in inflammatory conditions of the male or female genitalia. Microscopically they appear somewhat larger than the gonococcus, but only by cultivation can these organisms be differentiated.

In order to stimulate into activity, and thus enable us to find the gonococcus in cases of long standing, perhaps some years after the original infection, various methods of irritation may be adopted. The local application of comparatively strong solutions of silver salts, instrumental dilatation, massage, &c., will frequently bring gonococci again into prominence. I have found that the injection of gonococcus vaccine has the same effect during the negative phase, and whether the increase and decrease of the gonococci in the smears can be used as an indicator for dosage and injection intervals in vaccine treatment is at present under consideration.

Flakes and threads found in the urine may be cautiously dried on a slide, and the urine salts removed by washing. Urine for examination should be as fresh as possible. It is centrifugated, the deposit washed in water, and re-centrifugated.

The cultivation of the gonococcus is of great corroborative value, and it is sometimes essential to essay its artificial growth, especially when attempts to identify the organism in smears have failed on account of the number of contaminating bacteria; but this is a laboratory process outside the work of most practitioners.

The material for inoculating culture tubes is obtained exactly as has been described for the preparation of smears, but immediate seeding of the tube and incubating is desirable on account of the delicacy of the gonococcus. It speedily loses its vitality if allowed to dry or exposed to cold, and therefore does not carry well. When it is necessary to convey specimens some distance it is advisable to use some such apparatus as a thermos flask to retain a sufficient degree of warmth. The temperature must not, of course, exceed 37° C. The half-pint thermos flask holds comfortably the usual culture tube, and some cotton wool moistened with water at a suitable temperature will retain sufficient heat for some hours.

The complement deviation test is, of course, a laboratory procedure. It is now of proved value as an aid to diagnosis, but its use is subject to certain limitations. Variations in different strains of gonococci probably explain a percentage of misleading negative reactions, and the persistence of antibodies in the blood after all gonococci have been exterminated may explain the occurrence of erroneous positive results. This test, therefore, can only be esteemed as of corroborative value, but within its limits its usefulness is considerable.

The same is probably true of the skin reaction to gonococcus vaccine. I believe that some work has been done on this subject, but I have not had an opportunity of learning the results of others. At present we have the method on trial at the Glasgow Lock Hospital. I use a fine hypodermic needle and Ricord syringe, and inject intradermically ten to twenty millions dead gonococci of mixed strain. Care has to be taken to avoid hypodermic instillation of the fluid. The needle is inserted about a quarter of an inch, and, if in the proper stratum, the injection only of two or three drops is possible. As the fluid penetrates between the layers of the skin a white urticaria-like bleb is formed. If there is, or has been, within an as yet undetermined period, a gonorrhœal infection, a specific reaction occurs. An area of intense redness, slightly exceeding in size the above-mentioned bleb, is seen within a few hours. The reaction reaches its maximum in three days, but the area of redness continues with but little subsidence for some days thereafter, and usually begins to fade about the sixth or seventh day, and slowly dies away during the following week or ten days.

The intensity of the reaction varies with the seriousness of the case. When the adnexa are involved the skin reaction is often very marked. In very old-standing cases there is a modified reaction suggestive of the absence of gonococci.

The effect of the injection in a normal individual is, at the most, a slight redness, which reaches its maximum within twenty-four to thirty-six hours, and fades to a barely distinguishable paleness in four to five days.

The modified reaction obtained in post-gonorrhœal cases is between the normal and the specific.

These are the conclusions which seem to be warranted by the work already done, but much greater experience is necessary before the true value of the reaction can be estimated.

We may conclude, then, that in the present state of our knowledge, the essential point in the diagnosis of chronic gonococcus infection is the discovery of the gonococcus in the secretions. But in a suspected case a negative result can only be accepted as final after repeated fruitless examinations of suitable material procured subsequent to the adoption of some method of stimulation, the skin and serum reactions being also negative.

NOTES OF A CASE OF STRICTURE OF THE ŒSOPHAGUS.

By JOHN MORTON, M.B., C.M.,
Assistant Surgeon, Western Infirmary, Glasgow.

THE chief points of interest in this case are:—

1. The long history.
2. The diagnosis and apparent cure of a fibrous stricture in childhood.
3. The supervention of malignant stricture in later life.
4. The complication of a second and quite separate malignant lesion.

The present note forms an interesting sequel to a report on the same patient, contained in an article in the *Glasgow*

Medical Journal, thirty-six years ago.[1] That report is remarkable for the resemblance to the story given to me by the patient in describing his recent symptoms. For the sake of giving continuity to the narrative I have made the following extract from Dr. Dunlop's paper:—

"On the third of July, 1874, a little boy, then aged 7½ years, was brought before me for consultation. His father stated that the boy was subject to colicky pains, and his appetite had become of late very much impaired: that he was falling off in flesh: and that he sometimes vomited his food. . . . Believing that the symptoms were probably dependent upon some disturbance of the gastric functions, the administration of some alterative powders was advised, to be followed by change of air and tonics. . . . Three months later I was sent for to see the boy, and found that since my last interview he had lost much flesh, and his mother stated that he was becoming weaker every day: so much so, that he was now scarcely able to walk.

"On the 11th October he was seen in consultation by several surgeons, who, after a minute inquiry into all the points of the case, formed the opinion that the boy was suffering from tabes mesenterica, and the advice was given that the boy should be removed to the coast and put upon the same treatment as before. This was done, but there was no improvement. . . . Dr. MacGown of Millport, under whose care the boy was at the coast, observed him one afternoon eating, and thereafter vomiting, and it occurred to him that the food did not enter the stomach at all, and that possibly there might be a constriction or contraction of the œsophagus. With this new idea of the nature of the boy's ailment the father came to me, and although after thinking over the subject I came to the conclusion that there could be no stricture of the œsophagus present . . . prudence suggested the passage of an instrument into the stomach by way of settling the question. On the following day, accompanied by Dr. George Buchanan, I visited the boy, whom I now found to be in a very weakly state, much emaciated, very thirsty, very hungry, able to masticate, able to swallow pulpy food in a certain quantity at a time, which seemed to pass if not into the stomach at least in the direction of it. But the food was not swallowed more than two minutes when, apparently without effort, it was returned again. This act of swallowing liquid and pulpy food was repeated several times and as often were emitted, but it was observed that the act of returning the food was not accompanied by any muscular contraction of the stomach or of the abdomen.

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[1] "Notes on Stricture of the Œsophagus, cured by Dilatation," by James Dunlop, M.D., *Glasgow Medical Journal*, 1876, vol. viii, p. 201.

"On the boy being put in a suitable position, an ordinary-sized catheter was passed cautiously into the pharynx and along the œsophagus. When it reached a point just above the diaphragm further passage of the instrument was prevented. There was not only an obstruction of a permanent kind, but a pouch as well. The point of the instrument could be moved about in a considerable dilatation of the œsophagus immediately above the strictured point. A prolonged attempt was made to get a small-sized catheter into the opening, but without success. Day after day I renewed the attempt, but always with the same result till the seventh trial, when, as if by accident, a No. 1 catheter slipped into the opening in the pouch and thence onwards into the stomach, where for a few minutes it was left. Before withdrawing it, a little wine and water and also some cream were slowly introduced into the stomach—the first food which had entered the stomach for several weeks.

"I need not enter much into further details of the treatment. Suffice it to say, that the stricture was found to be annular in form and fibrous in character, and that in three months it was slowly and gradually dilated by means of instruments. . . .

"Before leaving the case it may be noted that after the first successful attempt to pass an instrument through the stricture the boy began to swallow food in small quantities, and at this day he has no difficulty in deglutition except for small pieces of animal food which still seem to pass through with some difficulty.

"The points of interest in the case are the following: The early age of the patient; the obscurity of the cause; the difficulty of diagnosis; the readiness with which the contraction was dilated after an instrument was passed; and the pouch which seemed sufficiently large to hold about an ounce of food, and which permitted a part to pass into the stomach, thus explaining the absence of emaciation in the early stages of the disease."

Such was the history of the case over thirty years ago. I now propose to give a short account of the further history till the death of the patient at the age of 44 years. I am the better able to do so from the fact that the patient was personally well known to me for twenty years. He was at one time a medical student, and took an interest in his own condition, and was able to discuss his symptoms in a manner somewhat different from that of the average layman. During these years I was also made aware of the fact that he suffered from an undescended testis, associated latterly with a hernia. I shall have to refer to this later, because it really had a more direct relation to the fatal termination of his illness than the œsophageal stricture, with which this history is chiefly concerned.

From the time the boy was under Dr. Dunlop's care till he reached the age of 17 years he was more or less frequently troubled with a feeling of choking and difficulty in swallowing food, and occasional vomiting. After that age he was really very well and comparatively free from any symptoms suggestive of serious œsophageal trouble, except at very rare intervals—perhaps not more than once or twice a year—when he would experience slight difficulty in swallowing. I had remarked, however, that he was always a very slow and deliberate eater. This satisfactory state of matters continued till about two years ago, when there was a recrudescence of his old symptoms, becoming more and more acute, and continuing with slight remissions till his death.

In December, 1910, he came to see me by appointment, and told me that for several months he had had a great deal of trouble with his œsophagus, and had been under treatment in London, where he had been resident for some time. I was greatly struck with the change in his appearance. He had lost flesh very markedly, and was in an extremely weak condition. He had been able to take very little nourishment for several weeks. I went carefully into his symptoms at that time. Any food he attempted to take was in the form of liquid. He had constant regurgitation, although some of the food must evidently have passed into his stomach, as he never put up quite all he had swallowed. One thing he had noted—and it is a symptom referred to in some cases of cardiospasm—was, that by swallowing a small meal, and then taking a considerable amount of water, the food seemed to be forced by the pressure of the water through the narrowed gullet into the stomach. He could fill and empty his œsophagus voluntarily at any time; in fact, it was a favourite practice of his to wash out the œsophagus in this way before taking a meal or before the passage of instruments. The capacity of the dilatation seemed to be about 6 oz.

Without much difficulty I was able to pass a No. 7 hollow bougie, and immediately put into his stomach a couple of pints of milk and egg mixture. Returning next day he told me that since the passage of the instrument he had been able to take one or two good liquid meals without much trouble, and he continued to do so during the time he remained in Glasgow. Upon several occasions I passed bougies up to No. 9. The passage of the instruments was accompanied by slight hæmorrhage. That, he said had happened before, and he thought the bleeding really gave him relief. He returned to London at the end of ten days, and for several months after his condition seemed to be improving. I advised him to have a bougie passed occasionally. He came to see me again at Easter, 1911, very much improved in appearance, and having put on nearly two stones in weight.

In February, 1912, ten months after his last visit, he arranged to come and see me again, as he had been very much worse. He had been in hospital in London for two or three weeks without any improvement. I found him much emaciated and complaining of exactly the same symptoms as before. I was able to pass a No. 6 bougie through which he could be fed, but I was not able to pass any larger instrument except on one occasion under an anæsthetic, when I passed a No. 9 bougie. The stricture was evidently contracting, and it bled more readily than formerly.

His condition seemed so desperate that I advised him to come into the Western Infirmary, and through the kindness of Sir George Beatson he was admitted to Ward XXXIV on 14th February. I kept him under observation for some days, and had him fed constantly by the tube, in the hope that he might improve as he had done before. As he was gradually getting worse, however, I decided to perform a gastrostomy.

While being prepared for the operation it was found that his abdomen was much distended, suggesting some degree of obstruction, although there had been no vomiting, and the bowels had acted the previous day. On opening the abdomen in the left hypochondrium, the stomach was found to be enormously distended and full of fluid, which proved, on opening the organ, to have a distinctly fæcal odour. It appeared, therefore, probable that we had to do with some form of intestinal obstruction, and that the absence of vomiting was probably due to the stricture in the œsophagus. Having inserted a tube into the gastrostomy opening, and dealt with the wound in the usual way, I naturally turned to the hernia region for an explanation of the obstruction. On opening the sac, which had a very tense feel, a large amount of purulent-looking fluid escaped from the abdomen, but there were no other contents in the sac—bowel was absent, and no trace of the undescended testicle appeared. But on exploring the pelvis I could feel a large firm tumour occupying the left side, and which I concluded must be the altered testicle. As the patient's condition precluded anything further being done, the inguinal incision was partly closed and a drain inserted.

The patient died twenty hours after the operation.

The diagnosis in this case was easy as regards the presence of a stricture of the gullet. Not only were the symptoms quite typical, but the seat of the contraction could be quite definitely determined by the passage of bougies, and corresponded with the diagnosis made when he was a child. , The bougie was arrested 16 inches from the teeth, and with a little manœuvring could usually be passed on into the stomach without great difficulty, although I failed on one or two occasions apparently on account of extra spasm. On giving the patient a mixture of bismuth to swallow, it could be demonstrated on the *x*-ray screen that there was a sort of peristaltic movement along the œsophagus, and that ultimately this movement was arrested and the bismuth collected above the diaphragm, and showed a pouching or dilatation of the tube above the stricture.

The question most difficult to decide was as to the nature of the stricture. The very long history naturally at first suggested an obstruction of a spasmodic nature, and I must confess that for a time I was inclined to regard the case as one of cardiospasm, With the recrudescence of the symptoms in a much aggravated form after middle life, one was compelled to consider the question of organic stricture, and was forced to the conclusion that the probabilities were altogether in favour of its being malignant. This view was suggested by the increasing dysphagia, by the gradual narrowing of the calibre of the tube, by the hæmorrhage and progressive emaciation.

Autopsy.—I am indebted to Dr. J. Shaw Dunn, who conducted the *post-mortem* examination, for the following account of the pathological conditions present.

Thorax.—The pharynx and œsophagus are removed together. The whole œsophagus is extremely dilated, and admits four fingers easily. A constriction is found about an inch and a half below the bifurcation of the trachea, which allows the passage of a cone 0·4 inch in diameter. From that point to the cardia, a distance of an inch and three-quarters, the lumen is narrowed to 0·4 inch. When the tube is slit open this region is found to show ulceration of long standing, extending right round the tube and associated with much fibrous overgrowth.

Abdomen.—The coils of small intestine are much dilated down to a point three feet from the ileo-cæcal valve. At that level there is a mark on the intestine showing that it has been caught by a constricting ring. There is a good deal of fibrino-purulent material in the pelvis. . . . The stomach is much dilated and filled with fluid, semi-digested food, with a slightly fæcal odour. The small intestine is similarly much dilated and full of fluid fæces of a pale colour. Below the constriction mark it is collapsed and congested. There is no evidence of actual perforation. The site of the constricting ring cannot now be located. The colon is collapsed, and contains a small quantity of firm fæces. . . . In the pelvic region there is, chiefly on the left side, a large soft tumour of oval shape, 4 inch by 3 inch, projecting under the peritoneum of the anterior wall from the direction of the internal inguinal region. On section it is found to be enclosed in a special serous sac, probably representing the tunica vaginalis. It is very necrotic and hæmorrhagic, and probably represents a malignant tumour in the retained testicle. There is no evidence that it alone caused the intestinal obstruction.

Sections from the ulcerated œsophagus show the presence of scirrhous carcinoma.

The testicular tumour is a very cellular carcinoma with cells containing large uniform darkly staining nuclei.

Obituary.

JOHN KNIGHT, M.D. Glasg., D.P.H. Camb.,
Medical Officer of Health, Scarborough.

Dr. John Knight, whose death took place on 16th ult. at Uddingston, was born in Glasgow in 1874. He received his early education at the High School, after which he proceeded to the study of medicine at the University. He graduated M.B., C.M., in 1896, taking the degrees with honours, and obtaining the Brunton Memorial Prize. After graduation he became an assistant physician at Belvidere Fever Hospital, and, turning his attention to public health, he took in 1898 the D.P.H. of Cambridge, and in 1902 he obtained the M.D. Glasg. He was for a year assistant to the Professor of Forensic Medicine and Public Health in the University of Glasgow, and in 1900 he was appointed assistant to the Medical Officer of Health for Glasgow. This post he held for five years, till his appointment in 1905 to be Medical Officer of Health for Scarborough. This appointment he continued to fill till his death, and during his occupancy he published many important reports and papers on public health matters.

Deceased had been in ill health since June, and had spent some time in Scotland to recruit. He underwent an operation on 13th, and seemed to be progressing favourably, but on the third day his condition changed for the worse, and death supervened.

During his assistantship to Dr. Chalmers in Glasgow his work brought him in contact with large numbers of the profession. To these his sudden death has come as a painful surprise. He is survived by a widow and two children, for whom much sympathy is felt in their bereavement.

USHER WILLIAMSON EVANS, M.D. Glasg.,
Deputy Inspector-General, A.M.D. (retired).

Deputy Inspector-General Usher Williamson Evans, A.M.D. (retired), died at Clifton on 27th August, aged 89. He took the Diploma of L.R.C.S. Irel. in 1844, and the degree of M.D. Glasg. in the following year. In April, 1846, he joined the service as Assistant Surgeon, becoming Surgeon in 1854 and Surgeon-Major in 1866, and retired with the honorary rank of Deputy Inspector-General in 1871. He served in the Crimea, and was present at the battles of Alma, Balaclava, and Inkermann, and the siege of Sebastopol, receiving the British Medal and four clasps and the Turkish medal.

CURRENT TOPICS.

THE GLASGOW MEDICAL SCHOOL.

WE publish the following particulars of the medical curriculum in view of the near approach of the winter session, which opens on the 14th inst.:—

UNIVERSITY OF GLASGOW.

The University grants four degrees in medicine. Of these, the M.B. and Ch.B. must be taken together.

The following outlines of the regulations for graduation are in accordance with the New Medical Ordinance, which came into operation on 1st October, 1911:—

Before commencing his medical studies, the student must pass the preliminary examination. This comprises (1) English, (2) Latin, (3) Mathematics, (4) An Additional Language, namely, Greek, French, German, Italian, or such other language as the Senatus may approve. In the case of a candidate whose native language is not English, certain modifications may be made in the preliminary examination.

The certificate of having passed the above examination must, along with satisfactory evidence of the applicant having attained the age of sixteen years, be transmitted to James Robertson, Esq., 54 George Square, Edinburgh, so that the intending student may be registered in the books of the General Medical Council. Certain other examinations, or a degree in Arts or in Science from a recognised University, are accepted as exempting from the preliminary examination.

The degrees of M.B. and Ch.B. will not be conferred unless the candidate has been registered in the books of the General

Medical Council for at least five years previously. The academical year commences on the first day of October. In each year there is one medical session of not less than thirty teaching weeks. The session is divided into three terms, two of which are deemed the equivalent of a winter session and one the equivalent of a summer session. Two of the five years of medical study must be spent at the University. There are four professional examinations. Of these, the first comprises Botany, Zoology, Chemistry, and Physics. Candidates are admitted to examination in any of these subjects, after attendance on prescribed course or courses, at times to be determined by the Senatus. Those who have passed the first professional examination may be admitted to the second (Anatomy and Physiology) after the end of the sixth term (*i.e.*, second year). The third examination (Materia Medica and Therapeutics and Pathology) may be taken after the end of the ninth term (*i.e.*, third year). The final examination is open to those who have passed the third examination and completed the fifteenth term (*i.e.*, fifth year). The examination comprises Medical Jurisprudence and Public Health, Medicine, Surgery, and Midwifery, and the Diseases peculiar to Women and to Infants. Every candidate for the final examination must submit a declaration, in his own handwriting, that he has completed his twenty-first year, or that he will have completed it on or before the day of his graduation. The final examination is, like the other three examinations, held in March and October.

Class fees vary; for the majority of classes the fee is £4, 4s.

Clinical courses have, up till now, usually been taken in the Western Infirmary; but, under the arrangements recently completed, students now have an opportunity of attending also the clinics and systematic lectures in connection with the new chairs at the Royal Infirmary.

Women students are admitted to certain classes in the University buildings. The remainder of the classes are held in Queen Margaret College. The clinical classes are taken in the Royal Infirmary.

The higher degree of M.D. may be taken by anyone who holds the Bachelor's degrees in medicine and surgery, on his complying with certain conditions. These are: That he must be of the age of twenty-four years or upwards; that he produces a certificate of having been engaged subsequent to having received the degrees of M.B. and Ch.B. for at least one year in attendance in the medical wards of an hospital or in scientific work bearing directly on his profession, such as is conducted in the Research Laboratories of the University, or in the military or naval medical services, or for at least two years in practice other than practice restricted to surgery. The candidate must pass an examination in clinical medicine, and must submit a thesis, for the approval of the Faculty of Medicine, on any branch of knowledge comprised in the second, third, or fourth professional examination for M.B. and Ch.B., excepting subjects which are exclusively surgical. Similarly, the degree of Ch.M. may be obtained by examination in clinical surgery and the presentation of a thesis on a subject not exclusively medical.

Full particulars of courses, fees, dates of examination, &c., will be found in the *University Calendar* (Messrs. MacLehose & Sons), or may be obtained from W. I. Addison, Esq., Registrar, the University.

ROYAL FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.

(1) *Triple Qualification* (L.R.C.P.E., L.R.C.S.E., & L.R.F.P.S.G.).—In conjunction with the Royal Colleges of Physicians and of Surgeons of Edinburgh, the Royal Faculty of Physicians and Surgeons, Glasgow, grants a licence to practise. This Triple Qualification admits to the *Medical Register*, and those possessing it are eligible for the public services. The course of study and the examinations are similar to those for the University degrees, but the class fees are in many cases lower than those payable in the University. Qualifying courses are held in Anderson's College Medical School and in St. Mungo's College,[1] and particulars may be obtained from the respective Deans. Regulations for the triple qualification may be had from Alex. Duncan, Esq., LL.D., Secretary to the Faculty of Physicians and Surgeons, 242 St. Vincent Street, Glasgow.

(2) *Fellowship.*—This fellowship is open to registered practitioners of not less than 24 years of age, and of not less than two years' standing. The candidate must pass an examination in medicine or surgery, and in any one of the following subjects which he may select:—Anatomy, Physiology, Pathology, Midwifery, Diseases of Women, Medical Jurisprudence, Ophthalmic Surgery, Aural, Laryngeal and Nasal Surgery;

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[1] Many of these courses are recognised by the University as qualifying for graduation. For special regulations, see the respective *Calendars*.

Dental Surgery, State Medicine, Psychological Medicine, Dermatology.

Fee, £50; to one who is already a licentiate of the Faculty, £25. If the candidate does not desire to be eligible to hold office, the fees are £30 and £15 respectively.

EXTRA-MURAL SCHOOLS.

Anderson's College Medical School.—This school is situated in Dumbarton Road, adjoining the main entrance gate to the Western Infirmary. The classes qualify for the M.B. and the Triple Qualification.

St. Mungo's College.—The school is in the grounds of the Royal Infirmary, Castle Street, and the students, as a rule, attend the clinics in the Infirmary. The classes are recognised by the University. They qualify also for the Triple Qualification.

Western Medical School (University Avenue).—Courses in Midwifery and Ophthalmology are conducted, which qualify for the M.B. and the Triple Qualification. Tutorial classes in other subjects of the curriculum are also held in the school. The students receive their clinical instruction in the Western Infirmary.

CLINICS.

Royal Infirmary (St. Mungo's College adjoins), 620 beds.—Visit hour, 9 A.M. daily; Outdoor Department, 2 P.M. Fees, including hospital practice, clinical lectures, and dispensary:—First year, £10, 10s.; second year and perpetual, £10, 10s.; for six months, £6, 6s.; for three months, £4, 4s. Students who have paid fees amounting to not less than £21 to any other hospital in the United Kingdom are admitted on payment of £3, 3s. for six months, or £1, 11s. 6d. for three months. Vaccination, £1, 1s.; pathology, £4, 4s.; or for University graduation, £6, 6s; bacteriology, £2, 2s.; practical pharmacy, £1, 11s. 6d. Fees for the above, as well as for all medical classes connected with St. Mungo's College, are payable to the Superintendent of the Infirmary, Dr. J. Maxtone Thom.

Western Infirmary (adjoining the University), 540 beds.—Visit hour, 9 A.M. daily; Outdoor Department, 2 P.M. Every student shall pay a fee of £10, 10s. for hospital attendance, and, in addition, £3. 3s. for each winter session, and £2, 2s. for each summer session of clinical instruction. Students who have completed their clinical course elsewhere shall be permitted to enter for a six months' course of the *hospital only* on payment of a fee of £2, 2s. The fees should be paid to the Superintendent, Dr. D. J. Mackintosh, M.V.O.

Victoria Infirmary (Langside), 180 beds.—For particulars, apply to the Superintendent, Dr. D. Otto Macgregor.

Royal Hospital for Sick Children (Garnethill), 74 beds.—Outdoor Department, 11·30 A.M. Fee, £1, 1s. for twelve months (Indoor and Outdoor). For information apply to Resident Medical Officer.

Eye Infirmary (174 Berkeley Street, and 80 Charlotte Street).—Hour of visit, 1 P.M. daily. Fee for six months, £1, 1s.; for twelve months, £2, 2s.

Ophthalmic Institution (126 West Regent Street).—Hour of visit, 2 P.M. Fee for a qualifying course, £1, 1s.

Insanity.—During the summer session, a course of lectures is given in the University, and clinical instruction in the Royal Asylum, Gartnavel. Fee for combined course, £2, 2s.

Dr. Oswald conducts, in addition to the above, a clinic on Incipient Mental Disorders in the Out-patient Department of the Western Infirmary.

At Gartloch Asylum, Gartcosh, senior medical students may obtain appointments as resident clinical clerks. The appointments are for six months, and those holding them can attend classes in Glasgow in the earlier part of the day. Applications should be sent to the Medical Superintendent, Dr. W. A. Parker.

Clinical lectures are given at Hawkhead Asylum by Dr. James H. Macdonald, "Mackintosh" Lecturer on Psychological Medicine in St. Mungo's College. Systematic lectures are given at the College as part of the same course.

Fevers.—Clinical instruction is given in Belvidere and in Ruchill Hospital. Fee, for a course extending over ten weeks (once a week), £1, 1s.

Maternity Hospital.—Clinical instruction in Midwifery is given at the Hospital, and there are exceptional facilities for practical work in the Outdoor Department.

Gynæcology.—Clinical instruction is given in the Gynæcological Departments of the Maternity Hospital, and Western and Royal Infirmaries.

Diseases of the Skin, and of the Throat, Nose, and Ear are taught in the special departments of the Royal and Western Infirmaries. The *Hospital for Diseases of the Throat, Nose, and Ear* (Elmbank Crescent) affords further opportunities for the study of these diseases.

APPOINTMENTS.—The following appointments have recently been made:—

C. Court, M.B., C.M.Glasg. (1885), to be Medical Officer of Health for the Kirkham Urban District, Lancashire.

D. Macdonald, M.D. Glasg. (M.B., C.M., 1893), to be Medical Referee under the Workmen's Compensation Act for the Sheriffdom of Argyll, and to be attached more particularly to the Oban District, *vice* Dr. James Maxwell, deceased.

J. King Patrick, M.B., Ch.B.Glasg. (1901), B.Sc., D.P.H. Dubl., to be Assistant Medical Officer of Health and Medical Officer in Charge of Tuberculosis Dispensary, County Borough of Leicester, *vice* Dr. J. Bell Ferguson.

T. L. G. Stewart, M.B., Ch.B. Glasg. (1911), to be Assistant Medical Officer to the Liverpool Union Brownlow Hill Workhouse.

J. M. Taylor, M.B., Ch.B. Glasg. (1907), to be District Medical Officer of the Thorne Union, Yorkshire.

J. P. Wilson, M.B., Ch.B.Glasg. (1898), to be Government Medical Officer at Mungindi, N.S.W.

ARMY MEDICAL SERVICE OF THE TERRITORIAL FORCE.—Colonel Sir George T. Beatson, K.C.B., M.D., on vacating the appointment of Assistant Director of Medical Services of a Territorial Division (Lowland), resigns his commission, and is granted permission to retain his rank and to wear the prescribed uniform, dated 11th September, 1912.

CHINESE DECORATION FOR DR. A. R. YOUNG.—H.M. the King has authorised Dr. Alexander Russell Young, Medical Officer for the Prevention of Plague, Mukden Station, to accept and wear the Order of the Double Dragon, Insignia of the Second Class of the Third Grade. The decoration has been conferred on Dr. Young by the Emperor of China in recognition of valuable services rendered. Dr. Young, who has been decorated along with Dr. Dugald Christie, C.M.G., and Dr. D. D. Muir, was formerly a student in the University of Glasgow and in St. Mungo's College, and took the triple qualification in 1903.

RECONSTRUCTION OF ROYAL INFIRMARY: UNSATISFACTORY CONDITION OF THE OLD MEDICAL HOUSE.—Under the heading "A Dangerous Building," it was the other day reported in the newspapers that in the course of the demolition of the oldest portion of Glasgow Royal Infirmary—the block facing Cathedral Square—in connection with the reconstruction scheme, it has been found that the building was in an exceedingly unstable condition. Faults in construction and defects in the material employed have been disclosed, of such a character as to show that the occupancy of the building had been attended with grave danger to the inmates. The block was designed by the Brothers Adam, and was erected between 1792 and 1794. It had a massive and elegant appearance, and was greatly admired as an example of the work of its designers. In an official report to the managers of the infirmary, Mr. John Woodward, master of works, states that the building was found to be in a very bad state of decay. All the centre portion, which has the appearance of very heavy masonry, was really a skeleton, and had had to be shored up to prevent a serious mishap in removing. The pediment face—which was nearly all cement—it was impossible to save, parts of it crumbling away in the men's hands. Bond timber, originally built in with iron and lead straps, was the only thing that held it up, and a sample of the timber, which was completely decayed, showed the state the building was in. Mr. Woodward concluded his report by saying that it was a good thing the building was now being demolished, as something serious would certainly have happened.

"Alas! poor Yorick!" It is sad work reading of the bones of the "Auld Hoose"; but our grief is tempered by the reflection that the managers have been well advised in their resolution to remove the landmark which had grown very dear to so many of us. The old building has served its day and generation—we might well say "generations"—and it is only in keeping with the spirit of the institution that when it was found to be no longer able to carry on its task, it has stood aside to give place to something better. That its successor will worthily maintain the old tradition there is no shadow of a doubt.

WESTERN INFIRMARY AND INSURED PERSONS.—As a result of a conference between the medical staff and the managers of the Western Infirmary, it has been agreed that in the event of in-door patients whose cases are urgent seeking admission, the staff will be prepared in the meantime to treat them as at present. With reference to out-patients, however, it has been agreed that, provided a panel is formed, no insured person will be treated in the out-patient department of the hospital unless he has a private note from, or is introduced personally by a practitioner on the panel, who is in attendance, and in such case, after the consultation, the patient will be referred back to the same medical attendant with the opinion of the hospital physician or surgeon on the patient's condition.

Insured persons will be treated in the out-patient department of the hospital when they meet with accidents which require immediate help, and are unable to obtain access to their own doctor on the panel. No subscriber's line is to be used for out-patient departments under any circumstances. Insured persons will receive treatment at the out-patient department when the treatment is of such a special nature that it cannot be carried out elsewhere than at a hospital.

PROFESSOR SCHÄFER ON THE ORIGIN OF LIFE.—It is not given to everyone to rouse such widespread interest as has been excited by Professor Schäfer in his presidential address to the British Association for the Advancement of Science. It is, of course, natural that the problem of life should bulk largely in the minds of all thinking men and women. But, apart from the interest of the subject itself, few, if any, will deny that the method in which the president approached and dealt with it is largely responsible for the way in which it has been received.

Disclaiming any intention of formulating an exact definition of life, Professor Schäfer says that recent advances in knowledge have suggested the probability that the dividing line between animate and inanimate matter is less sharp than it has hitherto been regarded. The problems of life are essentially problems of matter, and the phenomena of life have to be investigated by the same methods as all other phenomena of matter. As a result of these investigations it has been shown that living beings are governed by laws identical with those which govern inanimate matter. Going on to speak of spontaneous movement as the most obvious manifestation of life, we must, he says, bear in mind that physicists have shown us that movements of a precisely similar character—in short, amœboid movements—can take place in such substances as oil drops, or mercury globules, where they are obviously produced as the result of purely physical or chemical reactions causing changes in the surface tension of the fluids under examination. The presence of such movements, therefore, does not necessarily denote life. Similarly, the processes of assimilation and disassimilation are not confined to living matter: witness osmotic phenomena. Even growth and reproduction can be demonstrated in inorganic crystals; and, lastly, J. Loeb and others, working on the ova of the sea-urchin, have shown that division of the ovum may be brought about by a simple chemical reagent.

Having thus shown the slenderness of the grounds on which to frame a definition of life, he proceeds to consider the chemical composition of living tissue, and suggests the hope that some day we may even see prepared synthetically the material which composes the nucleus.

The combination of the various elements into a colloidal compound represents the chemical basis of life, and when the chemist succeeds in building up this compound it will without doubt be found to exhibit the phenomena which we are in the habit of associating with the term "life." He believes that living matter is due to a process of gradual evolution from non-living, even although we have, so far, no evidence of such happening. If this evolution-theory be true, then such evolution is possible in the present and in the future, as well as in the past. The mass of colloidal slime, possessing the property of assimilation, will also be possessed of the power of reproduction, and, the establishment of life being once effected, all forms of organisation will follow, under the inevitable laws of evolution.

After consideration of the phenomena of co-ordination, and the war of the body against disease, Professor Schäfer concludes by referring to the death of the fixed cells of the body, leading ultimately to the death of the organism.

It will be seen from the above outline how Professor Schäfer has applied himself to the material basis of life. His presentation of the numerous facts is masterly; but the problem remains. It is too much to say that it will never be solved. Should its solution ever be accomplished, we shall then have to face the evolution from the "colloidal slime." What this evolution would mean, even in time alone, is past comprehending.

THE ANCESTRY OF MAN.—In his presidential address to the Anthropological Section of the British Association, Professor G. Elliot Smith, Manchester, said it was inevitable in these days that one trained in biological ways of thought should approach the problems of anthropology with the idea of evolution as his guiding principle; but the conviction must be reached sooner or later by everyone who conscientiously and with an open mind sought to answer the questions relating to man's history and achievements—certainly the chapters in that history which came within the scope of the last 60 centuries—that evolution yielded a surprisingly small contribution to the solution of the difficulties which presented themselves. There was undoubtedly the widest divergence of opinion as to the precise pedigree of man; nevertheless there seemed to him to be ample evidence now available to justify them sketching the genealogy of man and confidently drawing up his pedigree as far back as Eocene times—a matter of a million years or so—with at least as much certainty of detail and completeness as in the case of any other recent mammal. If all the factors in his emergence were not yet known there was one unquestionable, tangible factor that we could seize hold of and examine—the steady and uniform development of the brain along a well-defined course throughout the primates right up to man—which must give us the fundamental reason for "man's emergence and ascent," whatever other factors might contribute towards that consummation. Professor Elliot Smith was inclined to look upon the orang, the chimpanzee, and the gorilla not as ancestral forms of man, but as the more unenterprising members of man's family, who were not able to maintain the high level of cerebral development of the feeble-bodied human, but saved themselves from extinction by the acquisition of great strength and a certain degree of specialisation of structure. He emphasised the undoubted fact that the evolution of the primates and the emergence of the distinctively human type of intelligence were to be explained primarily by a steady growth and specialisation of certain parts of the brain; that such a development could have occurred only in the mammalia, because they were the only plastic class of animals with a true organ of intelligence; that an arboreal mode of life started man's ancestors on the way to pre-eminence, for it gave them the agility, and the specialisation of the higher parts of the brain incidental to such a life gave them the seeing eye, and in the course of time also the understanding ear; and that all the rest followed in the train of this high development of vision working on a brain which controlled ever-increasingly agile limbs.

HOSPITALS AND THE STATE.—The endowment and control of our hospitals by the State was the subject of a paper read by Sir William J. Collins at the conference of the British Hospitals Association just held in Birmingham. As Sir William Collins remarks, " . . . at the present time, more than at any other within living memory, the fundamental question of voluntaryism and communism in the matter of hospitals is challenging public attention and engrossing the consideration of all thoughtful reformers." This stage, he says, has been half unconsciously arrived at through a series of legislative enactments, the authors of which would quite ingenuously disavow any socialistic trend. How the legislature has led up to an assault upon the voluntary hospitals is seen in the case of education. Thus, the State instituted first of all compulsory school attendance: following on this came the Provision of Meals Act, and then the Education (Administrative Provisions) Act, 1907. Under this last, medical inspection was provided for, and the authorities were empowered to make arrangements for "attending to the health" of children attending school. The end of it all is that "the age of 5 to 14 is being regarded not so much a period of 'instruction' as a period for the State regulation and maintenance of childhood."

But there is more recent legislation which menaces the position of the voluntary hospitals, viz., the National Insurance Act. Sir William Collins sketches the probable effect of the Act on the numbers of both in- and out-patients, and he refers to a very important point—the diminution of contributions to the funds of the hospitals. He then considers the effect of State intervention on the hospitals. He quotes the evidence of Professor von Müller, of Munich, before the Royal Commission on University Education in London (1911) to the effect that if insured patients be admitted to a hospital *by right*, they are "not willing to be examined by the students, or to be made the subjects of demonstration in the theatre."

Sir William takes, we think, a rather pessimistic view of the probable effect on clinical teaching of the compulsory contribution to the hospitals. It will, he says, "reciprocally give rise to assertion of rights, and the refusal to be used as 'clinical material.' Under a voluntary system such assertion is absent, not because patients are regarded with less personal consideration here than in Germany—the reverse is notoriously the case—but because the spirit of compulsion profoundly alters the whole relationship between the medical man and his patient." On this point we beg to differ from Sir William. The average hospital patient in Glasgow considers that he is admitted into hospital by right of contributions kept off his pay. He looks upon himself as a subscriber. He has "paid into the hospital all these years," and he expects to be admitted, even if his case be unsuitable, or not in need of in-door treatment. But to give him credit, he rarely makes any difficulty about being examined by the students, or lectured upon by the teacher. It is usually quite the other way about. He takes a pride in his illness, and may feel hurt if he is not made the subject of a demonstration.

We are not indiscriminately advocating State control of hospitals. It has much to recommend it, but it is beset with difficulties. Thus, Sir William Collins says—"The surrender in turn of each of the great political parties in the State to the claims of the conscientious objector in the case of vaccination furnishes food for thought." This and other evidences adduced by Sir William suggest that the State should walk warily, and we agree with him that "good voluntary work . . . should not be lightly thrown away through a mere careless acquiescence in a communistic trend." At the same time, the question of control by the State has assumed considerable prominence, and we believe that the time is not far off when a certain degree of such control will have become an accomplished fact.

Dangers of Street Trading.—At the annual conference of the Sanitary Inspectors' Association at Sheffield University, a paper was read by Mr. W. G. Cooper, chief sanitary inspector, Bournemouth, dealing with the street trading problem. The subject of street trading was one which had given the State and local authorities many puzzling and difficult problems to solve. There were market area sellers, street sellers, and hawkers engaged in street trading in the most frequented, popular, and highly rated thoroughfares and business centres, who took advantage of the best pitches, and filched the trade from the shopkeeper, who was equitably entitled to such trade by the right and virtue of true citizenship. The street trader could move with the crowd, and trade in the richest neighbourhood.

It is only fair to the shopkeeper bearing taxation, rating, and other responsibilities that such competitive street traders should be licensed by the local authority, and, at anyrate, bear a small share of the responsibility of citizenship. The pedlar or hawker selling bootlaces and buttons was required to be licensed, but to sell articles of food, as fruit and vegetables, no such restriction was necessary, and street traders, according to the law, need neither be honest nor clean.

Juvenile street trading has become a real evil, and it has disastrous effects upon the character and habits of those engaged in it. The employment of boys to sell newspapers in the streets was a blot on the fair fame of the press. Other means should be adopted by the legitimate newsagents and newsvendors, such as by licensed kiosks or by the employment of old men and women at suitable and convenient positions. By checking street trading a fresh generation of street traders, loafers, and casual labourers would not be permitted to be in course of training, and children would not be forced out to earn money at an early age. The occupation was indisputably unfit for girls. The general coster in large towns was a genuine and hard-working person. The goods he sold might not be of the best, but, as a rule, they were sound and fit for food. On the other hand, the class of casual hawkers and loafers who bought fruit and vegetables known as "throw outs" from the wholesale merchants or middleman was a danger to the public. The food, often entering the decomposing stages, was "topped" by the best, and then sold to the undiscerning housewife. If it could not be sold it was kept until next day, often in most undesirable places, and having become more objectionable was disposed of in the dusk of the evening.

In the interests of public health all itinerant hawkers of food supplies for human consumption ought to be licensed, while, for the process of picking over, the wholesale merchant or middleman should be made responsible. Another source of danger in these days of motor traffic was the dust, consisting of dry manure and all kinds of desiccated street refuse. It should be a condition of granting a license that a proper approved form of barrow or stall should be provided, so that the food should not be contaminated by dust.

It will be seen that Mr. Cooper in his paper touched upon problems affecting not only the physical and moral health of the community, but also the rights of shopkeepers. He indicated, also, the lines upon which a satisfactory solution of the problems may be obtained. He had evidently, however, a greater faith in shopkeepers than one of the subsequent speakers (Mr. Ollett, of Eastbourne). This gentleman stated that he had to make fewer seizures from hawkers' or costers' barrows than from small shops.

A point which was seemingly not touched upon was the conveyance of edibles from shops, presumably above reproach, by messengers of doubtful cleanliness. We have all witnessed, or heard gruesome tales of, the handling of foodstuffs by errand boys. Our attention was not very long ago directed to this by a circular from a baking company intimating to the public that they were sending out their loaves in sealed paper wrappers.

NOTIFICATION OF PULMONARY TUBERCULOSIS.—Following on the issue of a circular by the Local Government Board (Scotland) in 1906, many Local Authorities extended the provisions of the Infectious Disease (Notification) Act, 1889, to pulmonary tuberculosis.

The experience gained in this way has proved that the difficulties anticipated in connection with the notification of the disease do not occur in actual practice. It is now recognised as an indispensable preliminary to effective and complete preventive measures against the disease that Local Authorities should have accurate information of the cases existing within their districts. The Board are accordingly satisfied that the time has come when the notification of this disease should be compulsory throughout Scotland, and they have issued regulations accordingly.

These regulations came into force on 1st August. They provide that every medical practitioner attending on or called in to visit any person shall, within forty-eight hours after first becoming aware that such a person is suffering from pulmonary tuberculosis, notify the same, on a notification form, to the Medical Officer of Health of the district in which the patient is residing. This does not apply to the case of an inmate in an institution in which special provision is made for the treatment of pulmonary tuberculosis, or to the case of a person who has already been notified to the Medical Officer of Health of the district.

School medical officers shall in the same way notify cases occurring among children whom they have examined in virtue of their appointment under the Education (Scotland) Act, 1908.

Notification forms will be supplied to practitioners by the Local Authority of the district, and the Local Authority shall pay to the practitioner the sum of two shillings and sixpence in respect of each notification sent by him, except in the case of a school medical officer.

A payment made to any medical practitioner in pursuance of the regulations shall not disqualify that practitioner for serving as a member of a county council, district committee, or town council, or as a member of a parish council or school board, or in any municipal or parochial office. Where a medical practitioner attending on a patient is himself the Medical Officer of Health of the district he shall be entitled to the fee to which he would be entitled if he were not such Medical Officer of Health.

THE MEDICAL SCIENCES IN GREAT BRITAIN AND FRANCE. —In continuance of our notice of the Report on Medical Education in Europe to the Carnegie Foundation (*v. supra* p. 204) we shall now examine Mr. Flexner's chapter on the medical sciences in Great Britain and France. It is not laudatory. "With the single exception of British physiology, the medical sciences in Great Britain and France . . . have remained in an instrumental relation to medicine and surgery. . . . For this reason, homogeneity and uniformity at a high level stop abruptly when we leave German for English, Scotch, or French soil. . . . The medical sciences have been cultivated by young men awaiting practice; a brilliant scientific achievement has brought them patients, not pupils and further scientific opportunity." In spite of the holding-down of the scientist, progress has, however, been made, and the scientist is now in a fair way to establish, in Great Britain at least, his independence of the clinician.

He favours the German principle of leaving the student free to move at intervals from one centre to another, and is scathing on the binding him to the school at which he commences his studies. He thinks larger or more convenient opportunity should be sought by moving from place to place. "Assuredly it is business, not education. . . . Whatever the reason, an English boy begins his medical course at Manchester, let us say, where the preliminary sciences and anatomy are thoroughly satisfactory. Why should he not emigrate to University College for physiology and pharmacology—the latter accessible almost nowhere? . . . Circulation of students in search of opportunity would put upon the British medical schools a pressure that they could not resist: for they must either meet scientific competition or collapse."

Mr. Flexner is very hard on anatomy and pharmacology. He refers to English and Scottish anatomy as "didactic description, dissection, drill." The subject requires the presence of a specialist devoted to teaching and investigation. He admits that "development along these lines is apparent at Glasgow, Manchester, and King's College, London." He has a far higher opinion of British physiology, and he is quite evidently favourably impressed by the method employed in our University in conducting the practical course in this subject. Similarly, he has a good word to say for the pathological institute at the Western Infirmary. "In its integrated department . . . Glasgow alone possesses an institute in which autopsies, teaching, and research go on harmoniously under the direction of the chief," and "the same may now be said of the second pathological institute," at the Royal Infirmary, opened since his visit to Glasgow.

He concludes that if the earlier teaching, *i.e.*, the teaching of the sciences, were confided to specialists, revision of clinical instruction would in course of time result. This has occurred in Germany, "where clinical education promptly adopted the ideals and availed itself of the resources that the laboratories had worked out." Mr. Flexner believes that the same result will be obtained in Great Britain and France when once their laboratories gain their appropriate recognition and development.

DENTAL CARIES AND ITS PREVENTION.—For some years back the members of the dental profession have been directing their attention to, and uplifting their voices on, the subject of dental caries and its bearing on the causation of general disease. Their insistence on the necessity for dental treatment may have been considered by cynical members of the public to be not entirely disinterested. Such an opinion need not worry us. Nevertheless, we note with pleasure that our dental colleagues do not confine themselves to the *treatment* of the caries. Like the members of the medical profession, dental surgeons have devoted much time and thought to experimental work with the object of placing *prevention* on a sound basis.

These remarks have been called forth by the publication of a little work[1] of which the second edition is at present in our hands. The writer of this work, Dr. Wallace, who is dental surgeon at the London Hospital, is the author of many papers on dental disease, and his views on caries and its prevention carry with them a degree of authority which commands attention. We have read the book through, and have been impressed by the careful and deliberate exposition of the various views, past and present, on the causation of caries. Dr. Wallace formulates as the exciting cause "the prolonged retention or stagnation of fermentable carbohydrates in more or less immediate contact with the teeth, and undisturbed by the free access of saliva." The next point is the prevention of this state of affairs as regards the lodgment of the carbohydrates. We need not repeat at length the author's arguments. Prevention is to be brought about by suitably arranging the sequence of foodstuffs in a meal. The food must be physically of such a character as to call for mastication, and as the result of mastication the crevices in the crowns of the teeth are thoroughly cleansed. Soft carbohydrates need not be entirely dispensed with, but the place which they occupy in the course of the meal should be such that acid-producing organisms are not imprisoned between the carbohydrate and the enamel.

In the chapter on diet in infancy and childhood in relation to the prevention of dental caries, we have a well-reasoned deliverance. Dr. Wallace reprobates the custom of carrying out the transition from milk to solid food by means of "pap feeding." Such feeding results in the infant over-loading its stomach with food not prepared in the mouth for digestion in the stomach. At the same time it fails to educate the infant in the gnawing which is a preliminary to mastication. When solids are to be begun, give a piece of toasted bread and butter. This the infant will gnaw and suck. "Gradually the toast disappears, practically in the form of liquid, down the child's throat, thoroughly prepared for further digestion in the stomach." After a month or two of this, rusks and milk puddings made sufficiently solid, and small amount of fish and chicken may be added. "By the age of 2½, when it has its full set of temporary teeth, the child can and may be allowed to triturate practically any food which adults habitually eat." The diet subsequent to the completion of the eruption of the temporary teeth should contain sufficient solid food of a consistency requiring mastication. The meal should be *arranged* physiologically so that it will not "terminate with concentrated and easily fermentable carbohydrates which lodge or stick about the teeth." Such substances should be followed by fresh fruit.

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[1] *The Prevention of Dental Caries*, by J. Sim Wallace, D.Sc., M.D. Glasg., L.D.S. Second Edition. London: Published at the Office of *The Dental Record*. 1912.

Dr. Wallace insists strongly on the effect of proper diet, and its proper arrangement in meals, in preventing dental caries. The tooth-brush, dentifrices, mouth washes, &c., are not necessary, however pleasant they may be.

He closes with remarks on disseminating the knowledge necessary for the prevention of caries, and appeals to the medical profession to help, as it is to them that the public look for guidance in the matter of dietetics. We are sure that it will be to the advantage of every family physician, and to the benefit of the children entrusted to his professional care, that he should carefully read and digest Dr. Wallace's little book. The work is not a mere discussion of theories for theories' sake. It has a practical aim, and it seems to us that the results which the author has obtained by putting his theory in practice are such as will be appreciated by all thinking men and women, medical or lay, who have to do with the upbringing of those who will become the citizens of the next generation.

NEW PREPARATIONS, &c.

From Messrs. Burroughs Wellcome & Co.

"*Vaporole*" *Pituitary* (*Infundibular*) *Extract*, *0·5 c.c.*—This is a clear sterilised extract put up in glass containers, and is meant to be used by intravenous or intramuscular injection. It is claimed that it raises blood pressure and keeps it raised, that it acts as a stimulant to plain muscle, particularly of the uterus, and that it slows and strengthens the heart beat and causes profuse diuresis. It is an elegant preparation.

MEETINGS OF SOCIETIES.

MEDICO-CHIRURGICAL SOCIETY OF GLASGOW.

Session 1911-1912.

Meeting XII.—3rd May, 1912.

The President, Dr. A. Freeland Fergus, *in the Chair.*

I.—Dr. T. K. Monro showed a patient presenting the following morbid phenomena:—Splenomegaly, polycythæmia, increased arterial tension, arterio-sclerosis, cardiac hypertrophy, albuminuria, and gangrene.

II.—FOUR CASES OF FRACTURE OF THE LARYNX.

By Dr. Walker Downie.

Dr. Walker Downie's communication was published as an original article in our issue for September, 1912, p. 161.

REVIEWS.

The Physiology of Protein Metabolism. By E. P. Cathcart, M.D., D.Sc., Grieve Lecturer in Chemical Physiology in the University of Glasgow. London: Longmans, Green & Co. 1912.

We welcome this monograph the more that it is by a Glasgow graduate and by a teacher in our own school, but apart from that it is welcome on its own merits. It is another example of the excellent series of monographs in biochemistry, some of which have already been reviewed in these columns.

The author is to be congratulated on the industry displayed by the book, which for all practical purposes places the present position of this subject before us. It does not discuss the subject quite from the beginning, but deals mainly with the principal work which has been done during the past decade.

In most of the chapters the arrangement followed is to give the main experiments and the conclusions which have been drawn from them, and then to sum up briefly with a statement of what would seem to be the present general conclusion. Some of these general conclusions may be stated: "The degree of gastric digestion of proteid would not seem to be a matter of very great moment, however, as under normal conditions these changes in the stomach are only preparatory to the action of the pancreatic and intestinal juices"; . . . "if any absorption of protein digestion products takes place from the stomach under normal conditions, it must be a small one." These extracts point clearly to the fact that the physiological chemist at present approaches the subject from a different standpoint to that of the clinician. True, the former admits . . . "that there may be at times an increased compensatory digestion in the stomach," and further . . . "this preparatory action is of importance"; and the latter, especially if he is a modern surgeon, seems to hold some of the functions of the stomach somewhat cheap: but the average person with disturbed gastric digestion and his painstaking medical attendant are well aware that if these unimportant functions get upset the present knowledge of the chemistry of proteid metabolism does not give much assistance to put things right. When one has uttered this caveat it is time to state that the author admits that the problem of the metabolism of protein is one of the most complex and obscure in physiology, and goes on to quote Carl Voit, who in 1902, after forty years of strenuous work, could say no more than that "the unknown causes of metabolism are found in the cells of the organism. The mass of these cells and their power to decompose materials determine the metabolism."

Evidently we are only at the beginning of knowledge of this subject though so much work has been done: in the bibliography at the end of the book there are 430 references to papers, and seven books are quoted. In the monograph this mass of work is systematised, and the subject is dealt with in nine chapters headed: digestion and absorption of proteids; protein regeneration; feeding experiments with abiuret products of digestion; deaminization; influence of the food on the composition of the tissues; protein requirements; theories of protein metabolism; starvation; work. These chapters are further subdivided into numerous headed paragraphs, so that the subject is treated in a most systematic manner.

The principal conclusions drawn from the material at present available seem to be that protein is broken down by digestion into very much simpler bodies—amino acids or groups of these—and that these are absorbed, circulate in the blood, and are then built up again by each individual cell. Further, that the process of splitting up of the protein molecule into a nitrogenous and a non-nitrogenous portion is a fundamental one in the metabolism of proteins. The question of the amount of protein required in diet is not settled: quality is of prime importance; but it is safer, on the whole, to give a relatively large intake of protein than a small one. Apparently it is difficult to get protein stored in the tissues even when the conditions for such retention might be held to be particularly favourable, and it seems as if any that is stored in the body exists as a sort of filling out of the cells in the form of "flesh," though some may be stored in the form of dead intracellular protein just like so much glycogen or fat.

When nitrogenous material is set free by the decomposition of tissue protein (*e.g.*, in starvation) there is evidence to show that under suitable conditions this material may again be taken up by the tissues. Apparently the presence of carbohydrate is of very great importance in the utilisation of proteid: "it may be taken as practically proved that carbohydrate in some form or other is absolutely essential for the synthesis of protein within the tissues." Carbohydrate is in constant demand by the tissues, and fat cannot supply this want, so if carbohydrate be lacking protein is broken down to yield the sugar which is lacking.

It is apparent that though it is only a beginning that has been made on the subject, yet that beginning is a very good one, and we are indebted to the author for the pains he has taken to set the subject clearly before us.

The book is really an excellent one, and should do much to enhance the reputation of its author.

On the Physiology of the Semicircular Canals and their Relation to Sea-Sickness. By JOSEPH BYRNE, M.D. London. H. K. Lewis. 1912.

MOVED thereto, no doubt, in part by the personal suffering to which he confesses, Dr. Byrne has given us in this monograph one of the most exhaustive studies of sea-sickness which have appeared in print. It is a malady apt to be lightly dismissed by all except the subjects of it, and it is therefore possible that Dr. Byrne would have found a larger circle of readers had he expressed himself in somewhat less than five hundred and seventy closely set pages. But when one reflects on the permanent damage that may result from sea-sickness in the case of cardiac or pulmonary sufferers, it is evident that too much trouble can hardly be taken in the discovery of its cause, if thereby a rational treatment may be found to produce even a considerable alleviation.

The author's investigations have led him to study deeply the anatomy and physiology of the semicircular canals, and more than half of his volume is occupied by an elaborate account of these, and of his experimental investigation of the effects of rotation, aural irrigation, and galvanic stimulation upon the labyrinth. He finds that the effect of each of these forms of irritation is the same, that they lead to nystagmus, loss of equilibrium, lowering of the blood-pressure, and gastric disturbance, and that these effects are identical with those of *mal-de-mer.*

The drugs which best counteract the effects of his experimental procedures are atropine and strychnine, given hypodermically and in combination. Bromide is of little value, cocaine is absolutely contra-indicated, and hyoscine and morphine should be avoided as tending to depress the medullary centres. Putting his observations to the test by voyaging in company with sufferers from sea-sickness, Dr. Byrne finds them verified in every particular. He, therefore, concludes that the malady is due to a functional disturbance of the labyrinthine nerve endings, and this is further demonstrated by the immunity developed in those who have been subject to it when they contract a double nerve-deafness. Gastric and circulatory disturbances are secondary, and disorder of ocular function has no more than an adjuvant effect.

His suggestions for treatment are on the lines mentioned above. Hypnosis, it may be added, has in his hands been found wanting. The judicious use of atropine and strychnine, aided, if need be, by recumbency and by careful dieting, removes all subjective discomfort, and prevents or checks vomiting; but the gastric juice remains subnormally acid, and the gastric motility impaired. For these symptoms he has tried extract of the gastric mucosa, but with little real effect.

The volume, in spite of its elaboration, is interesting and suggestive, both to the physiologist and the practitioner, and a little discursiveness may be pardoned if it has established the *rationale* of the disorder.

A System of Surgery. Edited by C. C. CHOYCE, M.D., F.R.C.S., &c. Pathological Editor—J. MARTIN BEATTIE, M.D. In Three Volumes. Vol. I. With 16 Coloured Plates, 64 Black and White Plates, and 250 Illustrations in the Text. London: Cassell & Co. 1912.

THIS work has been written by surgeons and pathologists who are actively engaged in teaching and in practice. The list of authors contains names well known in various departments of surgery, and is an indication that the text will not lack in authority.

Volume I, which has just been issued, is devoted chiefly to the consideration of surgical pathology and general surgery, and it opens with an article by Professor Dreyer and Dr. Ainley Walker, of Oxford, on surgical bacteriology. This, together with the succeeding article (therapeutic applications of surgical bacteriology), satisfactorily covers the field, and gives a really good account of the subject.

Professor Beattie contributes the article on inflammation, and in the course of the article deals with acute inflammation, the cells in inflammatory exudates, inflammation in non-vascular areas, lymphoid tissue, and bone. After considering the types of inflammation and the character of inflammatory exudates, he takes up the causes of inflammation, and concludes with the subject of chronic inflammation. The author of this article is to be congratulated on his presentation of a well-worn subject. The article is well written, and sets forth many interesting facts and theories. The subject of "repair" is by the same author. The process in different tissues is systematically taken up, and concisely set forth.

Mr. Lenthal Cheatle, in the article on suppuration, looks on the external excitant as being "practically always a micro-organism." While suppuration may possibly be caused by lifeless excitants, "the reader must recognise that it is the living excitants only with which he will have to deal when he meets with suppuration in ordinary clinical work." The author dwells on the importance of a bacteriological examination in every case of chronic suppuration, because, while such cases are very commonly associated with the *bacillus tuberculosis*, it has to be remembered that staphylococci and other micro-organisms may produce chronic lesions. Among other very interesting observations on acute abscess, we would draw special attention to the author's remarks on fibrous bands in the wall. These he does not look on as limiting the spread of the abscess. This is prevented by actively-acquired immunity. In this connection he utters again the old warning against rough treatment of the margin of an acute abscess, no matter what its age may be, and this "not merely because its mechanical disturbance may disseminate bacteria, but rather because mechanical injury lowers the local immunity and provides a more acceptable nidus for the bacteria." This will not, we think, be disputed: it is likely to be otherwise with his remarks regarding the removal of the appendix in a case of appendical abscess. Here, he thinks, it is quite safe, in most cases which are not of a tuberculous nature, to manipulate parts as freely as necessary, provided the pus has first been carefully removed. "In fact," he says, "it is wiser to remove the main sources of infection than to leave them for fear of destroying the integrity of the encysting tissues, always provided that first the pus has been removed." He thinks that in this case the liberation of bacteria into new fields is not to be compared, in point of danger, with the highly-poisonous fluid in the abscess cavity. This point is a difficult one upon which to dogmatise, and while the procedure recommended has many advocates, there are also many surgeons who believe in allowing an interval to elapse between the evacuation of the abscess and the removal of the diseased organ. We may misunderstand the author: his words certainly lead us to believe that he advocates immediate removal; but it is difficult to reconcile this position with his immediately-preceding remarks on the wisdom of "always" dealing "very tenderly with the living margin of an abscess." Despite this, however, we consider, after very careful perusal of Mr. Cheatle's article, that it is not only reliable as to facts, but that the opinions expressed in it are, on the whole, soundly based, and clearly those of a surgeon of experience.

In the article on gangrene Mr. Nitch gives an account of the various clinical forms. His description of cancrum oris is short but good, and there is an excellent coloured plate of dry gangrene.

Mr. Chad Woodward contributes a good article on burns. The important subject of tumours is by Messrs. Raymond Johnson and T. W. P. Lawrence. It is freely illustrated with many original figures. The same is true of Dr. Ironside Bruce's article on *x*-ray examination. Syphilis is treated of in successive articles by Colonel Lambkin, Majors Gibbard and Harrison, and Mr. M'Donagh; and Mr. Leedham Green writes on non-syphilitic venereal diseases. There are also articles on anæsthesia, blood-examination, glanders, actinomycosis, &c., which we can merely mention.

The volume is handsome in external appearance, is printed in clear type on good paper, and is in every way worthy of the high standard of the contents. Should the succeeding volumes be of the same excellence, the editors will have every reason to be proud of the work: it is likely to obtain a wide circulation.

Conduct and its Disorders. By CHARLES ARTHUR MERCIER, M.D., F.R.C.P., F.R.C.S. London: Macmillan & Co., Limited. 1911.

THE purpose of the book is to consider conduct strictly from a biological point of view, to show the biological value of every mode of conduct, and how every mode of conduct can be accounted for on biological grounds. A systematic knowledge of conduct is very necessary in the study and treatment of insanity, for insanity is mainly a disorder of conduct, and it is the collection and classification of facts regarding conduct that is here attempted.

Conduct is action in pursuit of ends, and is composed of acts undertaken to attain ends. The first book is devoted to the study of action. Action is *spontaneous* when it occurs merely because of the necessity of getting rid of stored up motion, or is *elicited* by stimulus from without. There is thus an internal and an external factor, and all action is due to the co-operation of these two. Action varies in quantity, and may be abundant, vigorous, and long-sustained, or the reverse: it may be instinctive or reasoned.

Differences in conduct between one species and another, and between different individuals of the same species, depend on differences respectively in the organisation of the nervous system, although circumstances—the external factor—play a part. In the higher animals and in elaborate instincts an element of reason is always present. When an action is continued after the circumstances it was designed to meet have passed away, the act is instinctive, and reason is "fossilised" into instinct; conversely the "liquidation" of instinct into reason occurs as the result of new adjustments to altered circumstances. There are thus two opposing tendencies in action—the instinctive, which is fixed and determinate, and the reasoned, which is flexible, and adapts itself to circumstances. Action may, further, be self-indulgent or self-restrained, and the first effect of reason on instinctive action is suspension of the pursuit of an immediate end for one that is remote. So self-restraint has come to be cultivated by the ascetic as an end in itself. And action may be impulsive or deliberate, voluntary or involuntary, novel, habitual, or automatic, original or imitative, crude or elaborate, play or work, skilful or unskilful.

In Book II are considered the ends that conduct strives to attain, and the means used. Ends are ultimate, proximate, or intermediate; the first are dictated by instincts, and all instincts are subsidiary to the primary instinct of race preservation. The three primary departments of conduct subserve respectively the conservation of the individual, the community, the race. Secondary departments are recreative, æsthetic, investigative, and religious. Conduct undertaken to satisfy these instincts may be excessive, defective, perverted, or reversed. These modes of conduct and their disorders are then considered in detail, the second of the primary departments (social conduct) being the most extensive, at considerable length. Social conduct is *elicited* when it is under the influence, in various ways, of others; and it is *spontaneous* towards the State, classes, or individuals. The last is the most extensive of the three, and is self-restraining, as inculcated in the Decalogue, or active, following the teaching of the New Testament. A department of conduct that equally subserves the preservation of the community and the race includes chastity and modesty.

Under racial conduct, courtship and marital conduct, the latter including parental and filial conduct, are considered.

The book is very well written, and makes very pleasant reading; it is also very interesting, and should appeal to others besides the alienist. For this reason it seems unfortunate that one or two references unsuited to the lay reader have not been omitted. Printing and binding enhance the attractiveness of the volume.

Fellowship Examination Papers for the Diplomas of the Royal College of Surgeons, Edinburgh. Edinburgh: E. & S. Livingstone. 1912.

THIS is a selected series of examination papers in the different subjects of examination for some recent years, and sufficiently indicates the scope and direction of the examinations as a whole. They will be found very useful by intending candidates for the various diplomas.

Dental Examination Papers for the Diplomas of the Royal College of Surgeons, Edinburgh, and the Royal Faculty of Physicians and Surgeons, Glasgow. Edinburgh: E. & S. Livingstone. 1912.

THIS is on exactly similar lines to the preceding, and the same general remarks apply.

Systematic Case-Taking. By HENRY LAWRENCE M'KISACK, M.D., M.R.C.P.Lond. London: Baillière, Tindall & Cox. 1912.

THIS manual, designed for the use of the clinical clerk, is intended to supplement and to explain the usual syllabus of case-taking with which he is supplied at the beginning of his work. Its author considers that there is room for a volume briefly discussing the significance of the various symptoms, the presence or absence of which the syllabus instructs the student to record, and that such a volume will tend to foster in the mind of the student a more intelligent appreciation of the important points of his cases, and a more purposeful method of examination. The idea is theoretically unexceptionable, but much depends upon the execution. In the present instance, after preliminary chapters devoted to the history and general examination, the various regions and systems of the body are separately discussed, and in a series of appendices details are given of chemical and other tests and methods of examination. The investigation of the whole body is thus covered in a comparatively brief compass, and a general idea of the methods of investigation may undoubtedly be obtained from the book. But too much space is devoted to description and to the details of manipulation and of tests, too little to the discussion of the significance of symptoms or the consideration of diseases as a whole, while the chapter on the blood is particularly defective. In short, the volume has too much the character of an abbreviated and, therefore, imperfect clinical manual, and while it may fulfil a useful purpose in serving as a preliminary guide to case-taking, it is not free from the danger that the less reflective student may consider it as replacing rather than introducing a more adequate book.

The Extra Pharmacopœia of Martindale and Westcott. Revised by W. HARRISON MARTINDALE, Ph.D., F.C.S., and W. WYNN WESTCOTT, M.B. Lond., D.P.H., H.M.'s Coroner for North-East London. Fifteenth Edition. In Two Volumes. London: H. K. Lewis. 1912.

THIS work grows steadily larger as time goes on. In the last edition it was divided into two volumes, and this has been repeated on this occasion; and both volumes have been increased in size, and incidentally they have also been increased in price. In a way this may seem inevitable, as the subject of materia medica grows steadily by the evolution of new theories and new methods of practice; but in the interests of the general practitioner, to whom this book has become a *vade mecum*, it is regrettable that some process of condensation or pruning cannot be adopted. Certainly, when turning over the leaves of the book one is occasionally irritated by some of the references given. Sometimes they baldly contradict one another, and sometimes they seem of somewhat trivial importance from a practical point of view. The wording, too, might often be much condensed with benefit.

The first volume deals with chemicals and drugs and their uses and properties, and much recent work has apparently been made use of. Tuberculosis, vaccines, organotherapy, radium and thorium, and numerous other chapters have been thoroughly revised. In the second volume analytical memoranda, bacteriological notes, mineral waters, glossaries, analysis of patent medicines, an organic analysis chart, &c., are given.

The book continues to be one of the best of its kind, and it really is a necessity to the physician and pharmacist, but we would plead for condensation in bulk and diminution in price in future editions.

New and Non-Official Remedies, 1912. Chicago: American Medical Association. 1912.

PREVIOUS editions of this *Annual* have been favourably reviewed in these columns. It continues to present in an accessible form those new and non-official preparations which conform to the rules of the American Medical Association, and are therefore classed as ethical. It may be recommended as an exceedingly useful compilation, whereby practitioners may check the statements they constantly receive about new drugs and preparations, and it is exceedingly desirable that some authoritative body in this country may see its way to publish a similar volume. Meantime medical men would do well to buy the book and keep it handy for reference. It is quite inexpensive.

Tuberculin in the Diagnosis and Treatment of Tuberculosis (Weber-Parke's Prize Essay, 1909, with additions). By W. CAMAC WILKINSON, B.A. Syd., M.D. Lond., F.R.C.P. London: James Nisbet & Co., Limited. 1912.

THOUGH discussing many aspects of the tuberculosis problem as it applies to man, this book is in reality, from first to last, a powerful plea for the establishment of *tuberculin dispensaries* throughout the length and breadth of the land, by one who is, in the best sense of the words, an indomitable enthusiast. For, in the opinion of Dr. Camac Wilkinson, the sole thing that counts in the diagnosis and treatment of phthisis pulmonalis amongst the poor is—tuberculin.

No one, so far as we are aware, claims for any method of treatment results at all comparable to those of Dr. Wilkinson; and the records and charts that are here submitted prove, as conclusively as such documents can, that his statements are based on the irrefutable evidence of fact. Every person that reacts to a diagnostic injection of tuberculin or to a Von

Pirquet's test is considered by this author to be in need of specific treatment. Large doses, as originally recommended by Koch, are employed, and the course, which usually lasts about six months, is concluded when the patient has developed a high degree of tolerance to the toxin. Thereafter it is the duty of the cured to present themselves at the dispensary every six, nine, or twelve months to have the permanency of their healthiness investigated by a fresh diagnostic injection of tuberculin; and, if found to react, they again undergo a therapeutic course of this specific agent. Cases are grouped according to Turban's well-known classification; of eighty-five in the first stage 100 per cent recovered and were well from two to six years after treatment; of second stage cases 50 per cent to 100 per cent, and of third stage cases 30 per cent to 50 per cent, in different years, remained well after the same lapse of time. And, mark you, all this has been attained without the sacrifice of work and wages, which is most important, for, as the average working-class home is barely kept together when the bread-winner is on full pay, it is difficult to see how this can be managed on the ten shillings a week to be allowed by the National Insurance Act when he is an inmate of a sanatorium. Further, it seems to be fairly conclusively proved by Dr. Wilkinson that the money at the disposal of the National Insurance Commissioners can never provide sanatorium treatment for more than about 10 per cent of the actual sufferers. In common with all users of tuberculin, this observer deprecates its employment where there is mixed infection, and, in his opinion, the true business of the working-class sanatoria is the reception and treatment of cases of tuberculosis complicated by the presence of pyogenic organisms. Thereafter, if, as is not uncommon, the case becomes one of pure tuberculosis, it should be passed on to the tuberculin dispensary to receive specific treatment.

In view of such astoundingly successful results, the question may well be asked, How are we not all employing tuberculin for diagnosis and treatment in the same fearless manner that has been pioneered by Dr. Wilkinson? It seems to us that the answers so far given cannot be regarded as satisfactory. Nevertheless, in our opinion, no Government would be justified in instituting *tuberculin dispensaries*, even though their cost is trifling, on what, after all, is the evidence of but one man; for despite the brilliancy of this practician's results, they lack that numerical strength which alone can carry conviction. It is imperative that this matter be settled without further delay one way or another. And when we take into account the endless vagaries of this disease that would almost seem to delight in belying the most careful and cautious of prognostications, it must be evident that we need for such a solution hundreds, perhaps thousands, instead of a few score of cases.[1] As a step in this direction, our readers would be well advised to at once make themselves familiar with Dr. Wilkinson's views and work.

The Tuberculin Treatment of Consumption. By H. VAUGHAN BARBER, M.A., L.R.C.P. London: James Nisbet & Co., Limited. 1912.

THIS booklet of thirty-two pages, inspired by practical acquaintance with Dr. Wilkinson's work, is written with "the purpose of bringing before the people of England the claims of the tuberculin treatment of consumption." It is pointed out that there are now three tuberculin dispensaries in Scotland—at Inverness, Leith, and Irvine.

Pathology of the Eye. By P. H. ADAMS, M.A., M.B., D.O. Oxon., F.R.C.S. London: Oxford Medical Publications. 1912.

AFTER careful perusal we lay this book down with feelings of keen disappointment. Some years ago we ventured to express the hope that, before long, medical men who intend to practise ophthalmology in the United Kingdom would be as carefully prepared for their work as dentists are for their special department. When the premier British university took up the subject of ophthalmology we hoped that at last ophthalmology was about to obtain its proper place as a branch of medical science. The volume before us, however, is so very defective that we cannot but wish that, if not for its own reputation, at any rate for the sake of the subject, Oxford had left ophthalmology severely alone. We sincerely trust that this is not the kind of thing on which the D.O. Oxon. is granted, for, if it is, it simply means that the diploma is of little value.

The substance of the book reminds us of the old "Aid Series" which in student days was the refuge if not the strength of the feeble-kneed. It is simply a grind and nothing more; it is not a treatise on ophthalmic pathology. Take but one example: the student is left to find out that a tumour which used erroneously to be called glioma is in fact a form of carcinoma. We are told that "this (glioma) is a malignant tumour which occurs in children two-thirds before the end of the third year." What is meant by this?

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[1] Dr. Wilkinson supplies records of close on 250 cases.

The author still speaks of "serpiginous ulcer," a term which all modern teachers regard as obsolete.

But if the matter of the book is not quite satisfactory, the manner is even worse. We do not remember ever to have read anything more carelessly proof-corrected. Errors of composition simply abound. Take page 125: speaking of the sclerotic, the author says—"It varies in thickness, being thickest posteriorly round the nerve, where it is about 1 mm. thick, and thinnest at the equator, where it is only about 3 mm. thick." The "crowning mercy," however, is on page 158, where we are told that "the *sight* of the pathological lesion is probably in the ganglion cells." Even the spelling of the word "hypopyon" is wrong.

The book may or may not be a credit to Mr. Adams—we do not know; but it certainly is not a credit either to British ophthalmology or to the University of Oxford.

Dental Anæsthetics, a Text-Book for Students and Practitioners, with Contribution on Analgesia. By John Bolam, L.D.S.Edin., and Wilfred E. Alderson, M.D.Durh. Bristol: John Wright & Sons, Limited. 1911.

Practical Anæsthetics. By H. Edmund G. Boyle, M.R.C.S., L.R.C.P. Second Edition. London: Henry Frowde and Hodder & Stoughton. 1911.

Anæsthesia and Analgesia. By J. D. Mortimer, M.B. Lond., F.R.C.S.Eng. London: Henry Frowde and Hodder & Stoughton.

Anæsthetics in Dental Surgery. By Frank Coleman, M.R.C.S., L.R.C.P., L.D.S., and Harvey Hilliard, M.R.C.S., L.R.C.P. London: H. K. Lewis. 1912.

Recent events have excited in various ways public and professional interest in medical education, and anæsthetics has not escaped special attention. It has lately, by medical initiative, been proposed that by legislation the right to administer anæsthetics should be limited to registered medical practitioners, and with certain reservations, as a concession to registered dentists. As a safeguard to this proposal a course of instruction in this subject has been instituted as an integral part of the medical curriculum. Undoubtedly a pressing necessity for better instruction in surgical anæsthetics had too long existed. These events may have contributed to the reasons for the simultaneous appearance of the above handbooks on this subject, that by Mr. Boyle being in its second edition.

The authors seem to have had the following aim in common before them, namely:—To produce a text-book to suit the wants of the medical or dental student, and a handy guide for the practitioner. It must be admitted that such a task has many peculiar inherent difficulties, but the authors have accomplished their intention with a goodly amount of success and merit.

Such a text-book should contain a clear and systematic statement of the essential principles of the science and art in question. Although anæsthetics is of modern origin, and although doubtless many substantial improvements await its immediate future, yet it already forms a branch of medicine that constitutes such a unity as calls for independent treatment. Although the authors are well aware of it, there is a certain element in the definition of an anæsthetic that is apt to be evaded in the writers' exposition of the subject, viz., that an anæsthetic is a drug, the administration and action of which and the recovery from which should be awaited by the practitioner under whose care the case happens to be. If these conditions are not practically attainable, the drug is in so far imperfect. It may be here said that in treating of any subject the definition of the subject should appear early in the text, and having made a good definition the author has accomplished something worth achieving, but the importance of a formal definition of what an anæsthetic is seems to have escaped these writers' attention.

The authors have perhaps erred, in common, in striving after the practical, and become extremists in so doing; so much so that should they compare their efforts there would be little chance of their detecting their error in the reflected light of this fashionable idol of their tribe. They seem to ignore what is called the theoretical side of the subject. The best practice is the outcome of appropriately developed thought, not merely the exact imitation of the most approved methods, or the servile reproduction of the routine of the most admired anæsthetists. There is such a general similarity in the good points as well as in the shortcomings of these four volumes that a choice or preference of one or other would be determined by fancy or chance rather than from any other reason.

To be practical in the right sense of the word, a text-book on anæsthetics should contain a general statement of the ethical relationships, one to another, of the patient, the surgeon, and the anæsthetic specialist, if the latter be party to the operation; a brief historical account of the origin and development of the science; and also a short statement of the chemical nature and physiological action of the drugs. Without a knowledge of these matters the assurance of the surgeon or the anæthetist in his procedure is on an uncertain, and, indeed, on a culpable basis. Some or all of these considerations are much too lightly, if at all, touched on in these text-books.

In regard to the form as distinct from the matter, a text-book should show in the table of contents, in a bird's-eye view, the form which the matter takes. Dr. Alderson appreciates this direction, but not so the other authors.

The method of treatment of the subject in each case is somewhat defective. Anæsthetics, like every other subject where there are a number of objects each having much in common, but presenting individual differences, is divisible, primarily, into a general and a special part. The general part coming first should treat of those matters that are common to all anæsthetics, and the special part following should treat of the characteristics or distinctive features of each anæsthetic, and in this subject of the manner in which these drugs can be advantageously mixed or combined. This direction has only in part been conformed with.

These authors properly deal with nitrous oxide first and chloroform last, starting with the simplest and safest drug, and finishing with the one in which the phenomena are more complex and difficult to observe, and with which there is the most danger associated.

They are rightly of the unanimous opinion that chloroform is peculiarly unsuitable for dental operations, but they do not explain how it is that, in face of this long admitted knowledge, this practice is still persisted in. Dr. Alderson justly remarks—"If I have spoken strongly with reference to the danger of chloroform, it is because I feel strongly that the use of chloroform in dental surgery must be interdicted, and it rests with the dental profession to bring this about. . . . To endanger the life of the patient in such circumstances, therefore, is unjustifiable, and would not be tolerated for one moment if public opinion became enlightened on the subject."

In dental surgery, even if given by a specialist, chloroform is more dangerous than for other operations on the mouth, where chloroform is already contraindicated. In a dental operation the anæsthetic has to be discontinued to admit of the operation, and, therefore, the operator has to act rapidly, exercising considerable force, both of these conditions being uncustomary in general surgery. The general practitioner administering the anæsthetic becomes merely an onlooker, is usually disconcerted, and is disconcerting. The dentist as he proceeds tends to obscure the effects of the anæsthetic, and has little opportunity himself of observing the state of the patient. The medical practitioner, should he notice anything going wrong, will tardily interfere. Again, the patient, being in the horizontal posture, the dentist is operating at a very great mechanical disadvantage, and in a position that he is unaccustomed to. He has not got proper command over his instruments, and a root or tooth is more ready to slip inadvertently from the grasp of the forceps. It will tend to fall backwards instead of on to the floor of the mouth on account of the patient's position. Chloroform, more than gas or ether, paralyses the sensation of the epiglottis and the reflexes of the associated parts, so that a foreign body falling into the pharynx is more apt to enter the air passage and less apt to be immediately coughed up, should it get there, than it would be in the case of ether or gas anæsthesia. Hence is added to the major risk of life that chloroform already entails the minor risk, which is still a serious one, of a foreign body becoming lodged in the trachea or bronchus.

Since receiving these books, at least two inquests on deaths from chloroform in dental surgery have been recorded; one on 19th January, the other on 12th February. In neither case was there the slightest need or justification for chloroform administration, but there never is any justification for the use of chloroform for dental operations. Medical practitioners administered the anæsthetic in both these cases in accordance with pseudo-ethics of the present time. In this class of dental accident it has almost invariably happened that the anæsthetic has been given by a medical practitioner. Is it because medical practitioners "detest the very sight of gas and ether apparatus," as Dr. Boyle says some surgeons do, that chloroform is preferred. Many general practitioners have the temerity to advise their patients against gas, and many dentists do likewise, the latter under the pretext that the presence of a general practitioner ensures safety, and chloroform is resorted to. This doctrine is taught by those who are recognised as the highest authorities, and it appears in text-books on dental surgery. A much more pernicious doctrine could scarcely be advocated or practised.

Clinical Disorders of the Heart: A Handbook for Practitioners and Students. By THOMAS LEWIS, M.D., D.Sc., M.R.C.P. London: Shaw & Sons. 1912.

THOSE who have been delighted with the admirable and highly scientific treatise by Dr. Lewis on *The Mechanism of the Heart Beat*, which was published last year, will heartily welcome the present handbook by the same author. It is much less of a laboratory work, and is designed rather as a guide to general practitioners, so that they may be able to distinguish the different kinds of disordered action of the heart without the assistance of modern instruments, unless perhaps the sphygmograph. Dr. Lewis inclines to the opinion that for a medical man engaged in general practice "the acquisition of the special manipulative skill, and the necessary experience which the obtaining and accurate interpretation of graphic records involves, entails too great an expenditure of time and energy adequately to repay him or the patients he serves." He believes that most of those disturbances of the heart's mechanism which are met with in everyday practice can be identified by simpler means.

After an introductory chapter of a more general kind, the author proceeds in the second chapter to treat of sinus irregularities, or those disorders of rhythm which are due to interference with the rhythmic impulses at their seat of origin in the sino-auricular node. These are apparently of vagal origin, and include those which are related to respiration. They are in themselves of but small importance.

In the third chapter there is a discussion of heart-block, which is characterised by delay in, or absence of, response on the part of the ventricle to impulses coming down from the auricle. There are, of course, various grades of heart-block, and its association with other features of the Stokes-Adams syndrome is nowadays well known, though the majority of patients who exhibit heart-block remain free from fits.

In the fourth chapter, Dr. Lewis deals with premature contractions, by which expression he means those irregularities which have been commonly known as extra-systoles. He recognises two principal classes of premature contractions, the auricular and ventricular, and he points out the difference between the two. On the question of prognosis he summarises his position by saying that while premature contractions have unquestionably a relatively insignificant import, as compared with many forms of cardiac irregularity, it is not right to neglect their presence altogether.

The fifth chapter is devoted to the subject of paroxysmal tachycardia as a condition in which, from time to time, the normal mechanism is abruptly submerged in rapid contractions of the muscle in response to a series of new, rhythmic, and pathological impulses. The impulses take origin in a new centre, which may develop in any part of the heart wall, and which then dominates the movements of the whole heart, giving rise to contractions at a rate exceeding that of the normal rhythm. The new focus is situated usually, if not always, apart from the sino-auricular node, which is the normal pace-maker, and as the new impulses continue to be produced in the one new focus, the regularity of the abnormal series of contractions is explained. In the majority of cases the abnormal focus is situated in the auricle. The attack may be as brief as a few seconds, or as long as several months.

The sixth chapter treats of auricular fibrillation. In this condition the normal impulse formation, arising at the pace-maker and involving the auricle as a whole, is replaced by stimulus-production at multiple foci in the auricle. The muscular walls of the chamber remain in a position of diastole. The structure as a whole seems motionless. Nevertheless, close observation of the surface of the muscle shows that it is really in constant activity. Rapid and delicate twitchings can be seen all over it. From the point of view of function, the auricle is no longer a unit, but is broken up into innumerable portions, between the separate activities of which there is no harmony or co-ordination. So far as propelling blood is concerned, the auricle is entirely out of action. Auricular fibrillation may be assumed to be present in cases of gross irregularity of the heart's action such as is met with in severe cases of heart disease with broken-down compensation, particularly if the beats of the ventricle exceed 120 per minute.

The seventh and concluding chapter deals with the very important subject of alternation of the pulse, namely, that variety of pulse which is regular in rhythm, but presents alternately larger and smaller beats. This variety of pulse cannot, as a rule, be recognised except by instrumental means. It is important because it is strongly suggestive of a grave state of the cardiac muscle.

We have touched but briefly on the contents of this book, but we should like to call attention not only to the valuable descriptions of the clinical disorders discussed, but also to the important remarks on the subject of treatment. These we would commend to all physicians. Of the typographical errors there are two which actually occur in words printed in italics (pages 85 and 97). One of these is particularly unfortunate, since by adding, or by altering, a single letter, entirely different meanings may be given to the passage. The word in question is printed "*contined*," which might easily be regarded as a misprint for "*continued*," whereas a study of the remaining part of the paragraph makes it almost certain that the word "*confined*" is intended.

In strongly recommending this book to our readers, we would heartily congratulate Dr. Lewis on the splendid work he has accomplished in cardiac pathology, and we wish him continued success in his labours.

The Therapy of Syphilis: Its Development and Present Position. By DR. PAUL MULZER. With a Preface by PROFESSOR P. UHLENHUTH, M.D.: translated by A. NEWBOLD. London: Rebman, Limited.

IT is to be regretted that a volume, Professor Uhlenhuth's preface to which bears the date 16th December, 1910, should only now make its appearance in an English dress. What was then the "present position" of the treatment of syphilis by arsenobenzol is now a matter of history, and much of the point of Dr. Mulzer's otherwise admirable contribution to the subject is consequently lost. At that time the importance of a second or even a third injection of the drug was only beginning to be appreciated, and Dr. Mulzer still found it necessary to contradict the popular belief that a single injection was an absolute cure for syphilis. But in spite of its belated appearance his book may yet be profitably read by those who desire to become familiar with the various steps in the chemotherapy of syphilis, for it contains an account not only of arsenobenzol, but of the other arsenical derivatives which preceded it. The bulk of the volume is devoted, however, to the treatment by arsenobenzol, or salvarsan, as it is now more generally called, and affords a very complete review of the situation as it was in Germany at the end of the year 1910. Auditory nerve paralysis had begun to be heard of, one or two cases of optic neuritis and atrophy had been reported, and relapses or failures after a single injection were not uncommon. Intramuscular rather than intravenous injection was still the prevalent technique, and there had been a considerable train of accidents as a consequence.

The bibliography with which the volume closes supplies an exhaustive list of German contributions to the subject, but only one or two of the numerous English or French papers find any mention. The translation, though disfigured by Germanisms—it would be difficult, for example, for a reader who did not know German to recognise that "which dissolve very easily in the overflow" meant "which are readily soluble in excess"—is, on the whole, clear and adequate.

Golden Rules of Skin Practice. By DAVID WALSH, M.D. Fourth Edition. Bristol: John Wright & Sons.

THE popularity of Dr. Walsh's little volume, so small that it can readily be carried in the waistcoat pocket, is attested by its having achieved a fourth edition in the brief space of twelve years. Although its size might readily awaken prejudice, as suggesting the cram book, perusal shows that its scope is altogether different. It is, in fact, a series of pithy descriptions of disease, and brief but pregnant aphorisms of treatment, gathered from the stores of Dr. Walsh's great experience, and representing in miniature the latest results of dermatology. Its widest circulation will be found among students, to whom it can be heartily commended, but there are many admirable suggestions in its "little room" from which the practitioner cannot fail to profit.

ABSTRACTS FROM CURRENT MEDICAL LITERATURE.

EDITED BY ROY F. YOUNG, M.B., B.C.

MEDICINE.

Further Results of Experiments by Dr. Alexis Carrel on the Life of Tissues Separated from the Organism. By M. Pozzi (*Bulletin de l'Académie de Medecine*, 18th June, 1912).—A summary of the technique and the results of previous experiments by the same investigator were noted in the *Glasgow Medical Journal*, April, 1912. The present series was commenced on 17th January, and marks a distinct advance. Numerous observations have been made on the rate of growth, the increase in bulk, and functional activity. While in the previous experiments the tissues died from microbic infection at periods up to two months, in the present series he has tissues still presenting active life at the beginning of the fifth month. Often the cellular proliferation appeared to become more vigorous as the tissue got older. At the end of the fourth month some cultures of connective tissue cells were growing more rapidly than at any previous period; and a fragment of heart in its third month of growth, in sixty hours became surrounded with a dense bed of cells sixty-four times larger than itself.

In another series of experiments he was able to divide the original culture and produced twenty new cultures, the mass of each being greater than the original piece of tissue used. Finally he was able to detach fragments of tissue containing only cells of one distinct morphological type, and then to grow these as fresh cultures.

This leads to the investigation of the functional activity of tissues, and the results obtained in this connection are truly remarkable. Fragments of heart were chosen for this purpose because of the ease with which their rhythmical contractions could be observed. He found that fragments of heart muscle which had ceased beating could be revived by washing in Ringer's solution, and then supplying fresh nutriment. In one experiment he had two fragments of heart of different size. The larger was beating 92 times per minute, the smaller 120 times per minute. Then the rate gradually got less in the course of a day or two, but washing and fresh medium caused them again to beat vigorously at 120 and 160 per minute respectively. At the same time they increased in size till they united to form a single mass of which all the parts beat synchronously.

The last experiment reported was undertaken to try and preserve this functional activity over several months A fragment of the heart of a chick embryo of seven days was taken on 17th January, and placed in plasma. At the end of several days it ceased to beat. After being through fourteen washings and fresh media, on 29th February the tissue was dissected, and the central part only used. It then began to beat as strongly and as frequently as at first, the rate being 120 to 130 per minute. During the months of March and April it continued to beat, but before each passage it was necessary to dissect away the newly grown connective tissue. On 1st May it was to have undergone its thirty-fifth passage, but it was accidently pulled on and torn, and the rhythmical contraction ceased.—GEO. A. ALLAN.

The Finding of Alleged Tubercle Bacilli in the Blood. By Joseph M'Farland (*Henry Phipps' Institute, Sixth Annual Report*).—Rosenberger claims to have found tubercle bacilli in every case of tuberculosis of all varieties and in all stages, including cases of lupus. He has now investigated over 300 cases.

Forsyth reports 12 cases, with positive results in 10.

Schroeder and Cotton studied the blood in 48 tuberculous cattle with negative results.

Mohler got negative results in 8 similar cases.

Ravenel and Smith likewise got negative results in 18 cases.

Petty and Mendenall studied 10 cases, only 7 of which were tuberculous, and found in all acid-fast organisms supposed to be tubercle bacilli.

Hewat and Sutherland studied 20 cases, and in one acid-fast bacilli were found, but on subsequent examination none could be demonstrated, so that they were led to believe that the presence of the two bacilli was accidental.

Anderson studied 48 cases of human tuberculosis along with 13 guinea-pigs and 8 rabbits experimentally infected. In only one case could he demonstrate acid-fast bacilli, and the blood from this case of human tuberculosis was injected into a guinea-pig with negative results. He therefore believed that the organism found was not the tubercle bacillus. Some of the infected rabbits' blood contained sufficient tubercle bacilli for the growth of cultures, yet no tubercle bacilli could be demonstrated in the blood smears.

M'Farland then gives the results of his experimental study of 56 cases. In 5 cases the signs were negative or questionable. In 10 physical examination was clearly positive, but tubercle bacilli were not found. In 4 early cases tubercle bacilli were found. Nine were moderately advanced and 22 advanced. One was complicated with laryngitis, another with adenitis. One was a case of miliary tuberculosis in an infant, another bilateral senile pneumonia, and, lastly, there were two cases of epidemic cerebro-spinal meningitis.

Five cases gave positive results--1 case of bilateral senile pneumonia, 2 cases of cerebro-spinal meningitis (epidemic), 1 case of miliary tuberculosis in an infant, and only 1 case in a suspected incipient tuberculosis. In the 50 cases of tuberculosis the results were invariably negative.

Brem examined the sediment from distilled water, fixing the slide with albumen, and found acid-fast organisms in every specimen. Tinctorially they accorded with tubercle bacilli in many respects. They resist 25 per cent aqueous solution of nitric acid, and also Pappenheim's solution, but unlike tubercle bacilli they are promptly decolourised by a 25 per cent solution of nitric acid in alcohol.

M'Farland concludes that tubercle bacilli do not constantly circulate in the blood of tuberculous individuals, though they are occasionally present, as shown by the inoculation experiments of Liebermeister, but being very few in number, they must be extremely difficult to find. He considers the source of error to be undoubtedly the distilled water.—JAS. SCOTT.

Unilateral Exophthalmos in Graves' Disease. By MM. G. Worms and A. Hamant (*Gazette des Hopitaux*, 20th June, 1912).--Unilateral exophthalmos in Graves' disease is of rare occurrence. Legras de Vauberey (*These de Lyon*, 1910), collected 48 cases, and the authors have extended the list to 112, including 2 cases under their own observation.

In Case I, left-sided exophthalmos was associated with enlargement of the left lobe of the thyroid. Left sided thyroidectomy, while it led to great improvement in the other symptoms, was without effect on the exophthalmos. In Case II the ocular phenomena were right-sided, but the goitre was symmetrical.

The authors briefly review the series of cases which they have collected. In most instances the other cardinal symptoms of the disease, goitre, palpitation, and tremor, have preceded the onset of the exophthalmos. Rarely they have appeared together, or even in the inverse order, and in this last event, the diagnosis from a local orbital lesion may be one of great difficulty. In the majority of cases the exophthalmos is unilateral from the onset, and remains so during the course of the disease. Sometimes the second eye becomes involved at a later date, and in certain rare cases an exophthalmos, at first bilateral, ultimately becomes unilateral from recession of one eye. When once established the exophthalmos remains practically constant; exceptionally it shows variations in intensity and degree from day to day. The right and left sides are affected in about equal proportions. Stellwag's sign and von Graefe's sign are usually present, and are confined to the affected eye.

Some authors (Müller, Kocher) have believed that there is a relationship between unilateral exophthalmos and unilateral goitre, *i.e.*, that the affections are homolateral. Of 43 cases in which a precise note was taken, in 17 the thyroid enlargement was confined to the same side as the exophthalmos (right side fourteen times, left side three times), while in 6 the symptoms were the crossed. In 13 cases thyroid enlargement was slight or absent. It does not appear, therefore, that the two phenomena are necessarily homolateral.

The authors favour the view that the exophthalmos is dependent on excitation of the cervical sympathetic, possibly as a *result* of altered thyroid secretion, a dysthyroidea. It is a partial, or rather a dissociated excitation, however, inasmuch as it produces no alteration of the pupil. As to the actual mechanism by which the protrusion is brought about, two theories hold the field, the vascular and the muscular. The authors support the latter, and believe that the exophthalmos is caused by contraction of the unstriped muscle, which has been shown to be present in the capsule of Tenon. They explain Stellwag's sign and von Graefe's sign in like fashion, viz., that they are due to contraction of the muscle of Müller, the unstriped muscle of the upper eyelid.

Unilateral exophthalmos has some prognostic significance. The cases in which it occurs are usually slight, and often several of the other cardinal symptoms are lacking. A fatal termination occurred in 2 only of the recorded cases, and in both of these the exophthalmos became bilateral during the later stages of the disease. Unilateral eye changes in Graves' diease are therefore of good augury. —MATTHEW J. STEWART.

DISEASES OF CHILDREN.

Hereditary Absence of the Patellæ and Deformity of the Nails. By A. C. D. Firth, M.B. (*Brit. Jour. Child. Diseases*, July, 1912, p. 305).—The author records the histories of two families in which this rare combination of deformities occurred. In one family the mother and four girls showed deformity of the nails and absence of the patellæ, whereas the father, one boy, and one girl were normal in every way. In the other family the mother, two girls, and four boys presented these deformities, while the father, three boys, and one girl were normal. There was no history of deformity in any of the parents' relatives. In the cases in which the patellæ were normal the nails were healthy in appearance, but in the others the nails always showed some deformity, although they were never entirely absent; they were short, and, in the majority, the finger-pulp overlapped the ends of the nails.—LEONARD FINDLAY.

The Composition of Human Milk during Nephritis. By Drs. Engel and Murschhauser (*Zeit. f. Physiol. Chemie.*, vol. 73, p. 101).—In a chronic nephritic, during the sixth month of lactation, the blood and

milk both showed an increase in the residual nitrogen. Lactation, however, was not disturbed, and the composition of the milk remained normal.
—LEONARD FINDLAY.

On the Influence of Urea on the Blood and Milk of Suckling Women. By Drs. Engel and Murschhauser (*Zeit. f. Physiol. Chemie.*, vol. 73, 1911, p. 131).—To suckling women 5 grm. doses of urea were given several times daily. Before, during, and after the administration of the drug the distribution and amount of the nitrogen of the blood-serum and milk were investigated. It was found that the residual nitrogen of the milk and blood-serum increased proportionately with the total nitrogen, and in amount 13 to 17·5 per cent of what it was before the administration of the drug. It is thus seen that an increase in the amount of urea leads to an increased excretion by the milk.—LEONARD FINDLAY.

Concerning Experimental Scurvy. By Drs. Axel Holst and Theodor Frölich (*Zeit. f. Hyg. and Infektionskrank.*, Bd. 72, H. 1, p. 1).—As the result of their researches these authors come to the following conclusions:—

1. Guinea-pigs, fed exclusively on the most varied kinds of cereals or with bread, develop within a month a disease which has the pathological characters of scurvy. The teeth loosen, hyperæmia and hæmorrhages into the gums, under the periosteum, into the tissues of the limbs, and separation of the epiphyses occur.

2. Guinea-pigs, fed exclusively with cabbage, carrots, dandelions, do not develop the disease, and that even although the animals lost weight. Scurvy occurs without any loss in weight, so that the idea of inanition being the cause of scurvy is not tenable.

3. Feeding with fresh vegetables prevents or cures scurvy in animals. Cooking of vegetables diminishes their anti-scorbutic power.

4. Prolonged drying markedly diminishes or destroys the anti-scorbutic power of vegetables. Cabbage preserves its power longer when dried in an incubator at 37° than when dried at room temperature, and this fact probably depends on the different degrees of moisture under the two conditions. The dandelion loses its power at once on drying.

5. The freshly expressed juice of cabbage loses, in contrast to the vegetable itself, the greater part of its anti-scorbutic power when it is heated for ten minutes to 60° or 70°. The juice also loses its power on standing for some time at room temperature or in the incubator.

6. Lemon juice does not lose its power on boiling, while cabbage and dandelion juice do. This may depend on the greater acidity of the lemon, since raspberry juice and sorrel juice can be heated to 110° for one hour without losing their power. By the addition of acid to cabbage and dandelion extracts it was found that they could withstand a greater temperature; but neither of these extracts can be preserved.

7. By boiling with a 5 per cent solution of citric acid there can be obtained from freshly dried cabbage a strongly anti-scorbutic extract. In the cold, by means of a 5 per cent solution of citric acid in alcohol, but not with alcohol alone, an extract possessing the same power can be obtained. The anti-scorbutic substances are not soluble in cold petrol-ether. Intraperitoneal injection of fresh cabbage juice has neither prophylactic nor curative powers.

8. These authors have seen scorbutic changes in the bones of two dogs, which had been fed for a long time on meal and water. They have also been able to induce the disease in pigs. The majority of the animals were fed on rye bread, rye bread and cooked flesh, or rice and dried fish. These latter animals in addition developed neuritis. —LEONARD FINDLAY.

Further Contributions on the Etiology of Experimental Scurvy in Guinea-Pigs. By Valentine Furst (*Zeit. f. Hyg. and Infektionskrank.*, Bd. 72, H. 1, p. 121).—Exclusive feeding with other dried seeds than those of cereals likewise cause scurvy, but the symptoms are milder and later in appearing, and some of the cases are not affected at all. If an animal is fed on a mixture of preserved foods, the result depends on the seeds that made up the mixture. If it contained some strongly anti-scorbutic article the animals remained free from scurvy. A scorbutic diet could be converted into an anti-scorbutic one by allowing the seeds to soak in water and germinate.

The anti-scorbutic substance does not consist of albumen, fat, carbohydrates, salts, or cellulose. This author could not isolate any one substance which had an anti-scorbutic effect.

The author concludes, from the fact that the anti-scorbutic effects of different substances are destroyed or increased in such different ways, that there are probably several anti-scorbutic stuffs, which may have, however, a common basis, just in the same way as most hæmatinics have iron as the basis. —LEONARD FINDLAY.

Experimental Researches on Infantile Scurvy. By Dr. Theodor Frolich (*Zeit. f. Hyg. and Infektionskrank.*, Bd. 72, p. 155).—This author found it impossible to induce scurvy by feeding guinea-pigs exclusively on boiled milk, and that even when raised to a higher temperature than is usually the case when such a diet causes the disease in children. He admits that the number of his experiments (nine) is small, and that it is only a comparatively small proportion of infants fed on boiled milk that develop symptoms. These results are very different to what he, along with Holst, obtained by feeding guinea-pigs with dried cereals. It was found, however, that boiled milk had lost its power of curing scurvy induced by exclusive feeding with cereals.—LEONARD FINDLAY.

DISEASES OF THE EYE.

A Case of Voluntary Intermittent Exophthalmos. By Dr. Denhaene, Brussels (*Archives d'Ophtalmologie*, June, 1912, vol. xxxii, No. 6). —The patient struck his face against a piece of wood, injuring the lower and outer part of the orbit and causing subconjunctival and palpebral ecchymosis, with temporary obscuration of vision. These symptoms passed away, and fifteen days after the injury, whilst blowing his nose violently, the patient was first aware of the fact that the left eye started forward half out of the orbit.

Since the accident the man had been subject to attacks of palpitation of the heart, with respiratory troubles lasting a few minutes only.

When Denhaene saw him first he was struck by the degree of exophthalmos affecting both eyes, but especially the left. The vision was normal in the right eye, and, aided by − 1 D. sph., also in the left.

Ophthalmoscopic examination showed, as the only anomaly, a patch of choroiditis in the left eye. There was no engorgement of veins or arteries, and no abnormal pulsation of vessels.

Palpation of the orbit showed no abnormality. When the patient made a forced expiration, holding the nostrils tightly closed, the left eye started suddenly from the orbit until the equator of the globe presented between the lids, and remained in this position so long as the pressure was maintained. Immediately the pressure was relaxed, the eyeball sunk back into its ordinary position.

Examined by Hertel's exophthalmometer, the right eye protruded 18 degrees and the left 20 degrees under ordinary circumstances, and under pressure the left eye protruded 28 to 30 degrees.

Denhaene reviews the literature of the subject, and arrives at the conclusion that there was in both orbits a degree of venous dilatation which became greatly accentuated in the left orbit owing to the injury, and it was increase of this which gave rise to the increased exophthalmos during forced expiration and increased blood-pressure.—Leslie Buchanan.

Congenital Vertical Strabismus. By Professor P. Lagleyze, Buenos Aires (*Archives d'Ophtalmologie*, June, 1912, vol. xxxii, No. 6).—This article is an excerpt from a new treatise on strabismus, which is about to appear, by Lagleyze.

Lagleyze has collected a considerable number of interesting and unusual cases of vertical strabismus, usually associated with inclination of the head to one side. About twenty cases are quoted, some in full detail, some in brief, dealing with various types of error.

Only cases which are congenital have been included, and the author attributes the deformity to anatomical anomalies such as alteration of the insertions of muscles, faulty development, presence of adhesions or of abnormal ligaments.

The association of vertical strabismus with inclination of the head had been noted by Von Graefe in 1855, and, generally, is well known; but the condition is not by any means frequent, and the author states that it is only by keeping a constant outlook for such cases that he has been able to bring together such an amount of fresh material.

Regarding the treatment of the condition, the writer of the article advises the permanent use of prisms associated with the correction of any refraction error which may exist. In four cases he has operated by tenotomy (three times) or advancement (once), and has obtained an excellent result in each.

The paper contains much that is of interest, and should be read by all interested in the subject.—Leslie Buchanan.

Effects of Injections of Sterilised Air into the Vitreous in Separation of the Retina. By Dr. Rohmer, of Nancy (*Archives d'Ophtalmologie*, May, 1912, vol. xxxii, No. 5).—Rohmer, following the example of Krusius and Ohm, has tried this treatment in cases of separation of the retina.

Unfortunately the results obtained are not very encouraging. In one case (out of seven) only was the retina replaced for a length of time; in five the retina was replaced, but soon fell back into its former position. In one case no good result was obtained.

The best case was Rohmer's first, and here the retina remained in its normal position after four months, and the visual field was distinctly enlarged, although central vision was not much improved.

Rohmer did not hesitate to repeat the injections of air in several cases, but even this did not produce any sustained benefit—Leslie Buchanan.

Books, Pamphlets, &c., Received.

The Surgery of the Skull and Brain, by L. Bathe Rawling, F.R.C.S. London: Henry Frowde and Hodder & Stoughton. 1912. (25s. net.)

A Text-Book of Pathology for Students of Medicine, by J. George Adami, M.A., M.D., F.R.S., and John M'Crae, M.D., M.R.C.P.Lond. Illustrated with 304 engravings and 11 coloured plates. London: Macmillan & Co. 1912. (25s. net.)

Catalogue of the Periodical Publications, including the Serial Publications of Societies and Governments in the Library of University College, London, by L. Newcombe, Sub-Librarian. London: Horace Hart. 1912.

GLASGOW.—METEOROLOGICAL AND VITAL STATISTICS FOR THE FOUR WEEKS ENDED 21st SEPTEMBER, 1912.

	Week ending			
	Aug. 31.	Sept. 7.	Sept. 14.	Sept. 21.
Mean temperature, . .	53·2°	54·0°	52·2°	53·7°
Mean range of temperature between highest and lowest,	14·6°	15·4°	15·8°	15·4°
Number of days on which rain fell, ...	4	5	0	0
Amount of rainfall, . ins.	0·88	2·69	0·00	0·00
Deaths registered, . . .	220	191	191	208
Death-rates, ...	14·6	12·7	12·7	13·8
Zymotic death-rates, . .	0·6	0·8	0·5	0·7
Pulmonary death-rates, .	3·1	2·3	3·1	2·5
Deaths—				
Under 1 year, . . .	40	46	37	29
60 years and upwards, .	60	40	48	56
Deaths from—				
Small-pox, ...	...	...	...	...
Measles, ...	1	...	...	...
Scarlet fever, ...	2	...	...	2
Diphtheria, ...	5	6	5	4
Whooping-cough, . . .	...	4	2	3
Enteric fever, ...	1	...	...	...
Cerebro-spinal fever, . .	...	...	...	2
Diarrhœa (under 2 years of age),	24	13	9	3
Bronchitis, pneumonia, and pleurisy, ...	32	25	25	18
Cases reported—				
Small-pox, ...	...	...	...	...
Cerebro-spinal meningitis, .	...	...	1	1
Diphtheria and membranous croup, ...	30	46	33	40
Erysipelas, ...	12	27	25	25
Scarlet fever, ...	36	58	71	56
Typhus fever, ...	...	...	...	...
Enteric fever, ...	9	6	6	6
Phthisis, ...	36	56	48	39
Puerperal fever, . . .	2	4	3	1
Measles,*	19	16	14	14

* Measles not notifiable.

Sanitary Chambers,
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THREE HUNDRED CONSECUTIVE CASES OF APPENDICITIS.

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The story of the events by which surgical interference in the diseases of the appendix and in the inflammations resulting therefrom was recognised as a proper and useful means of treatment is one full of interest and instruction. I do not, however, propose to go into that in this paper. All I would point out is that since the advent of the period that inaugurated the surgical treatment of appendicitis, great advances have been made in two directions—first, in improving the technique of the operation for removal of the appendix, and, secondly, in widening the field of operations in connection with that organ, interference being no longer confined to perforations of the appendix, as was originally suggested, but extended to every variety of inflammation attacking it, in all or any of their stages. It is the wisdom of this latter course that I wish to call in question, as there is, I consider, a good deal to be said on this point, because we are face to face with the fact that the mortality of the surgical treatment of *acute appendicitis* is too high, and greater than it should be if it is to justify its claim to hold the field to the exclusion of all other therapeutic measures.

Twenty-three years ago, when there came into existence what has been called "the aggressive surgery of the appendix," a great future was predicted for it. Thus, M'Burney wrote that by its means we ought to be able to save *all* our cases of acute appendicitis. Has that high standard of success been attained? It must be regretfully admitted that it has not, and of that fact surgeons are fully cognisant. What, then, is the explanation of the failure, for failure it undoubtedly is according to M'Burney's teaching? The surgeon at once replies that he does not get the cases early enough, and that if he did there would be no deaths. I quite admit that if every case of acute appendicitis was seen and operated on within a few hours of the commencement of the attack, the mortality would be very small and the after-progress of the cases good, qualifying this admission, however, by the additional statement that a goodly proportion of errors in diagnosis would have occurred, and that a very large number of the patients would have recovered from the attacks under medicinal and dietetic treatment. It is not, however, possible for surgeons to see all cases within a short time of the attack, nor do I think that it will ever be so. Days may elapse before the patient calls in a medical man, or the sufferer may be so placed as to be unable to get surgical advice. This being so, and it has got to be accepted especially in connection with the class of cases that come to hospital, does the rule of immediate operation still hold good? Is it the best that can be offered such patients? Some surgeons reply in the affirmative. I think a little reflection will show that there are good reasons for holding the opposite view, and that a number of the cases would be best treated by the expectant plan.

Consider for a moment the position of things. First and foremost, acute appendicitis is *septic* in its origin. Secondly, this septic inflammation may declare itself *in various forms and degrees of intensity* in connection with the appendix itself and its surrounding structures, it being well known and admitted that in a certain number of cases—not a numerous one—the patients die quickly, but that in the other and larger number who do not succumb at once the amount of intra-abdominal mischief present in each case varies, and has some relation to the length of time the attack has existed. Of this every operating surgeon is aware. This being so, what are the conditions that may result in the abdomen from an attack of acute appendicitis? Briefly, it may be said that they are represented by *a varying amount of peritonitis*, and that it is the different degrees of inflammation present in the peritoneum that must be taken as the basis of classification of cases of acute appendicitis, and that ought to regulate the treatment. The following are the varieties of peritonitis that may be present:—

1. The peritonitis may be limited to a mere injection of the smooth peritoneal surface of the appendix, the organ lying quite free in the peritoneal cavity.

2. There may be signs of very intense peritoneal inflammation in the cæcal region, the appendix being swollen and altered in colour, presenting sometimes quite a vermilion tint, with a creamy deposit of lymph on it, or, in other cases, a purplish-claret appearance similar to what is seen in the intestine of a strangulated hernia. This latter state of matters is often described as "gangrenous," but this is incorrect, as the true gangrenous appendix has an ashey-grey tint. This colour change may constitute the chief feature in this class of case, there being very little other peri-appendicular mischief present in the shape of adhesions binding down the appendix.

3. In a third and very numerous group of cases the inflammation may have gone on to a further stage, and the peritoneum may have exercised the power it possesses of localising, by means of the effusion of plastic lymph, the inflammatory condition of the appendix. When this happens, the coils of intestine in the vicinity of the inflamed organ are matted together along with the omentum and cæcum, and in this way the appendix, often perforated and sometimes gangrenous, is completely surrounded and shut off from the general peritoneal cavity. In other words, there is a localised plastic peritonitis, and beyond this the inflammation may not go.

4. In a certain number of cases, however, the inflammation does go a stage further, and within the matted coils of intestine there forms a collection of purulent fluid, in which may lie one or more concretions and occasionally the sloughed-off or disintegrating gangrenous appendix, so that there is formed *a limited and circumscribed intraperitoneal abscess*, separated from the general peritoneal cavity by a definite barrier composed of lymph, intestine, and omentum. Such abscesses are usually small in size.

5. Quite distinct, however, from this group of cases is

another one in which there is, also, a localised abscess, but in these the brunt of the attack has fallen on the retroperitoneal connective tissue around the cæcum and there forms *a limited and circumscribed extraperitoneal abscess*, which is entirely outside the general peritoneal cavity. This state of matters is apt to occur when the appendix is retrocæcal and devoid of peritoneum, as it sometimes is. These extraperitoneal collections of matter represent the "perityphlitic abscesses" of the older pathology, and may attain considerable size.

6. Lastly, we have in acute appendicitis a group of cases—fortunately a small one—in which there is not present any adhesive or localising peritonitis. Here there is no limitation of the inflammation. It spreads rapidly and involves the whole general peritoneal cavity, which becomes the seat of an acute infective and suppurative process. This latter may take the form of effused masses of coagulated lymph, which coats the serous surface of the intestines, or may show itself by the presence of turbid purulent fluid with no adhesive or organising tendencies. In either case the peritoneal cavity is filled by an intense septic effusion, which by absorption proves rapidly fatal, and gives us our class of case known as "fulminating appendicitis."

I have said, however, that the conditions in acute appendicitis vary with the length of the attack. Thus, the simple peritonitis of the first few hours may in twenty-four to forty-eight hours have assumed quite a different aspect. It may have quieted down and ceased to progress, or it may have progressed, becoming either a general suppurative peritonitis or a localised plastic one. With further time this general peritonitis may, in exceptional cases, lessen, but, as a rule, it intensifies and proves fatal. In the same way, the localised plastic variety, especially if properly managed, may also quieten down, and eventually subside. In a certain proportion of cases, however, it may pass on to circumscribed suppuration, either intra- or extraperitoneal, as already described. This small intra- peritoneal abscess, with the lapse of time, may burst into the general peritoneal cavity; or it may empty itself into the rectum or intestine; or it may become adherent to the parietal peritoneum and point externally; or it may be absorbed, a very common termination. One thing certainly happens to such a localised collection of pus, and that is, that under any circumstances with time it gradually loses its virulence, and probably after a period of two or three weeks it has become almost sterile—a most important fact, and one that I consider bears materially on the question of immediate or delayed surgical treatment of such a case. As regards the larger extraperitoneal pericæcal abscess, the course it usually follows is that it makes its way outwards, becomes adherent to the parietal peritoneum, and points externally. In a very small percentage of cases it may open into the cæcum or rectum. It rarely bursts into the general peritoneal cavity.

In view of what has just been said, the surgeon on opening the abdomen may find a very dissimilar state of things, according to the period at which he interferes in an attack of acute appendicitis. He may be face to face with any of the following conditions:—

1. *Serous appendicitis*, with its congestion of the surface of the organ but without any adhesions. If the latter should be present, they are of a gauzy, filmy kind, and may be quite local or disseminated in the nearest coils of intestine.

2. *Fibrinous appendicitis*, in which the appendix and the structures adjacent to it are coated with plastic lymph of an entirely fibrinous and adhesive kind, so that the adjacent coils of bowel, the cæcum, and possibly the omentum, are matted together into a firm, inflammatory mass which is quite localised and limited, and that may lie deep down in the abdomen absolutely non-adherent to the parietal peritoneum, or be more superficial and adherent to it.

3. *Suppurative appendicitis.*—In this variety the whole peritoneal cavity may be involved, and there is present a *general suppurative peritonitis.* Only a small minority of cases suffer from this widespread infection. In the greater number the collection of pus around the appendix is limited and confined to the right iliac region, where it is shut in by firm, fibrinous adhesions, so that we have a *localised abscess.*

Assuming that no surgical intervention took place in a number of cases suffering from any of the above acute conditions, and that only medicinal, dietetic, or other measures were employed, what results might be looked for? The general suppurative cases would die, as also would any of those with localised suppuration where the abscess burst early into the general peritoneal cavity. Both these groups, however, would form a small percentage of the cases. A very liberal calculation would be 5 per cent. *The other 95 per cent would, under careful and proper expectant treatment, recover from the attack*, and it should be made an axiom that in the management of every case of acute appendicitis there is one point, and one point only, that should be kept in view, and that is *the safe conduct of the patient through the existing* *attack*. The moment there come into such cases of acute appendicitis other considerations, such as the ulterior advantages of the removal of the appendix apart from the necessity of it in the existing attack, there is introduced a factor that has no bearing on the position, and that may be a source of danger. To do nothing but what is necessary to carry the patient successfully through the present illness should be the guiding principle, and the basis of all treatment. To keep the peritonitis within bounds, and to prevent the dangers that would follow its extension, are the objects that should dictate the measures used. And a little consideration will show that this is not such a hopeless task. Recent years have furnished a great deal of valuable information on this point, owing to the vast amount of operative work that has been done in connection with acute and chronic cases of appendix disease. We know that cases with serous peritonitis quickly recover from the attack, all that may be left being a few gauzy adhesions. The same satisfactory results occur in fibrinous peritonitis, although in it their convalescence is slower, and the adhesions that remain are dense and fibrous. A favourable ending also happens in cases with localised abscess if there is proper treatment, and this is a point upon which it is important to have a clear understanding. Of the localised abscesses that form in acute appendicitis, be they intra- or extraperitoneal, many are small in size. I am satisfied that they are often absorbed, leaving behind them that yellowish, ochre-coloured *débris* that one constantly finds around the appendix when operating on cases in a quiescent state. If they do not absorb, they make their way outwards and are evacuated. In some cases they lie inactive, the pus losing its virulence, and they are no longer the dangerous foci they were when first formed, so that very often they give no indication of their presence by rise of pulse or temperature, the only clinical evidence of their existence and of their being at all active being furnished by the fact that while pulse and temperature are normal the blood-count is high.

In saying that such a large number of acute appendicitis cases would recover, it must be understood that I refer only to the *attack*, for in a large proportion of them the affection becomes chronic, or, after a varying period of apparently sound health, there is a recurrence of the disease when there becomes established a condition that is known as *relapsing* or *recurring appendicitis*. Both these forms of chronic and relapsing appendicitis are closely allied, and are very common, so that practically nearly every one who has suffered from one attack of the disease has to reckon with the possibility of another. When we consider the causation of appendicitis, and remember how twists and bends of the organ, as well as partial stenosis of its lumen, by their increase of pressure and tension, favour the development of that *bacterial infection* which is the active factor in the disease, it is not difficult to understand how it may assume a recurrent form.

From what has been said, it is apparent that the morbid conditions in an inflamed appendix and in the structures around it vary greatly, and it is only natural that these variations in the severity of the attack should manifest themselves by different clinical symptoms. Some hold that nothing more than a general diagnosis of appendicitis can be made, and that it is impossible and dangerous to attempt anything more. With this I do not agree. I believe that with care and experience in the disease, *the type of attack* may be recognised, and the line of treatment suitable to it decided on. Space does not allow of my discussing this question here, so I must ask that it be taken for granted that cases can be distinguished and treated accordingly. This being so, which are the cases of acute appendicitis that *require* immediate operation? Those suffering from *general suppurative peritonitis*, both those that have developed it quickly, and those in which it gradually spreads from a local focus around the appendix. As to the recognition of these cases, I confess there are difficulties, but they are not insuperable. In my experience these cases declare themselves very definitely, both by their general symptoms and their local conditions, so that one has no hesitation in carrying out that immediate surgical treatment which they demand, and of which I will speak later on. All the other types of acute appendicitis I consider are best dealt with by the expectant method of treatment (unless a collection of pus points externally when it is opened), and *operated on* when *pulse, temperature, and blood count are normal*, that is to say, when they are in the quiescent stage. By following this line of procedure I consider the best results in acute appendicitis are obtained. I know such teaching will be regarded as unorthodox and antiquated, but the value of a method must be judged by its results, and new departures should not be taken up unless it can be shown that they are improvements, and are found to be so in everybody's hands. They ought to stand this reasonable test or they should not be accepted, no matter who stands sponsor for them or advocates their adoption. So far I know of no published hospital statistics that will bear favourable comparison with the results obtained in my wards of the Western Infirmary during my tenure of office as surgeon, where has been followed by me the plan of doing an immediate operation in cases of general suppurative peritonitis only, all other *acute* cases being treated by the expectant or immobilisation plan, the underlying principles of which are the following:—

1. Mechanical rest in bed for the patient.

2. Rest for the appendix and intestines—(*a*) No solid food, and at first only small quantities of albumen water; (*b*) no purgatives; (*c*) occasional enemata; (*d*) use of opium and bismuth.

3. Continuous application of warmth locally.

4. Few but careful local examinations of the affected part.

5. Close and constant supervision of the case by an experienced nurse.

6. No modification in the treatment until convalescence is well established.

7. Removal of the appendix when pulse, temperature, and blood count are normal.

8. If the presence of a local abscess is indicated by a high blood count, postponement of the operation for removal until it becomes normal, or sufficient time has elapsed to allow the pus to lose its virulence. Clinical experience has shown that this comes about in three weeks.

When cases of appendicitis are admitted in the subacute or quiescent stage, if pulse, temperature, and blood count are normal, they are at once operated on, and the appendix removed.

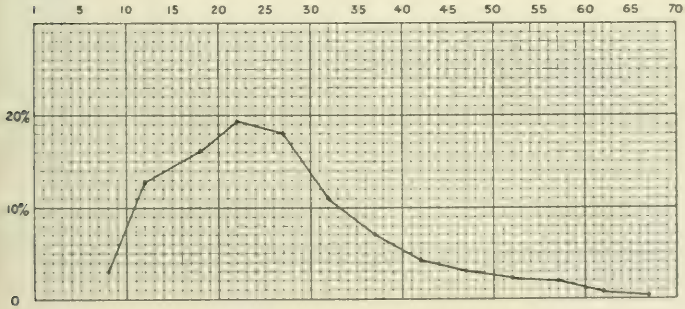
The following table gives the results obtained by the above method in 300 consecutive cases of appendicitis admitted under my care in the Western Infirmary, and I have to thank Dr. Roy Young especially for the trouble he has taken in collecting them and in classifying them:—

CLASS OF CASE.	NUMBER.	DEATHS.	PER CENT.
1. Interval cases, . . .	126	0	*nil.*
2. Acute cases, 69 of whom had localised abscess, . .	164	4	2·4
3. General peritonitis, . .	10	7	70·0

From the above figures it will be apparent that of the 300 cases of appendicitis admitted under my care in the Western Infirmary, 289 were dismissed well. In only one case was there a small fæcal fistula, which followed a peri-appendicular abscess, and was in process of healing, but the patient wished to be removed home. Of the 289 successful cases, 281 were operated on, 8 declining operation when in the quiescent stage. The eleven deaths give a mortality over all of 3·6 per cent, but examination of the deaths shows that the greater number happened in the general peritonitis cases, only four of the acute cases succumbing, while in the 126 interval cases, all of whom were operated on, there were no deaths. The following summary represents the results in the 300 cases:—

Cases dismissed well, . . .	289
Cases operated on, ...	281
Cases declining operation, . .	8
Number of deaths, ...	11 or 3·6 per cent.
Cases with localised abscess, . .	69
Cases with previous attacks, . .	147

Other facts are brought out by the figures in reference to sex and age. Of the 300 cases, 163 were males and 137 females, which is in keeping with the usual experience that more men suffer from appendicitis than women. I find, however, that of the 11 deaths, 7 were females and 4 were males. As



AGE INCIDENCE IN THREE HUNDRED CASES OF APPENDICITIS IN FIVE-YEAR GROUPS.

regards age, the youngest patient was 5 years old. This is explained by the fact that children of an earlier age suffering from appendicitis are taken to the Sick Children's Hospital. The oldest patient in the series was 69. The accompanying graph (p. 329) gives the age incidence of the 300 cases in five-year groups, with the percentage of the total cases, and from it it is evident that the larger number of my cases occurred between the years of 20 and 24, there being 58 cases in that period, or a percentage of 19·3.

Other points of interest might be drawn attention to in connection with these 300 cases of appendicitis, but to me they have their chief interest in the bearing they have on the vexed question of the relation of surgery to the acute form of the disease. The teaching that operation should be done in *acute* appendicitis directly the diagnosis has been made —irrespective of the period of time the attack has existed— has had a fair trial, for it has been largely put into practice for the last twenty years at least. What are the results it has to show? They are anything but favourable, and are not comparable to those I have just given. Where is it that the difference comes in? It is not in the interval cases, for every surgeon is alike in his results in these, the mortality being practically *nil*. No doubt the general peritonitis cases furnish a part explanation, for a great many of them die; but they are a comparatively small proportion of the acute cases. In my 300 cases there were only 10, and I fancy that gives a fair percentage. This being so, they cannot altogether account for the high mortality that accompanies the immediate operative treatment of acute appendicitis. I am satisfied that it is due to operation in acute cases at a stage of the attack when operation should not be done.

The fact is that the generally laid down rules about dealing with an infective suppurating focus inside the peritoneum want reconsideration and revision. The teaching that a localised intraperitoneal abscess in connection with appendicular inflammation should be at once dealt with is, in my opinion, wrong, and responsible for many deaths. The view that its presence is an imminent danger has not the support of clinical experience. I had 69 cases of these localised abscesses, and they were left for days and weeks without any harm, and with none of the bursts into the peritoneal cavity that are still put forward as the ground for interfering with them. Of the two deaths amongst these cases one was most instructive. The patient, a young man, had passed successfully through a very severe acute attack, and his pulse and temperature were normal, but he had a high blood count, indicative of a local abscess. It did not come forward, so I determined to let time elapse to allow of the pus becoming less active and virulent. Pressure was put upon me by the friends, who were evidently being coached outside by the teaching that if there was matter present not a day should be lost in evacuating it. Unfortunately, I was leaving for a holiday, and not caring to leave a difficult case to whoever was coming on duty, I operated against my better judgment. Every precaution was taken in shutting off the general peritoneal cavity and in dealing with the abscess that was found, but general suppurative peritonitis followed, and death took place in four days. Such an occurrence made a deep impression on me, and only confirmed me in the view that I strongly hold, that a localised abscess in the peritoneum should not be hurriedly dealt with, but that it should be given time to form adhesions to the parietal peritoneum; or, failing that, to lose its virulence by sufficient lapse of time. What I have just said applies equally to early interference in cases of localised fibrinous appendicitis even without abscess, for the lymph in these cases is full of septic organisms, and its disturbance by manipulation puts the adjoining peritoneal cavity in great danger.

It must be borne in mind that what is the basis of the immediate operation in acute appendicitis, and what justifies it, is that by it the whole diseased focus is removed in the shape of the affected appendix; but a little reflection will show that while that is quite feasible, and is easily accomplished when the appendix is free, it is far from being so when it is matted down by inflammatory lymph, and that the attempt to accomplish it may lead to an extension of the mischief to the general peritoneum and the occurrence of that general suppurative appendicitis which one is desirous to prevent. Besides, it is not necessary to interfere on the ground of urgency. The results in my cases show clearly that with the adoption of proper measures these localised inflammations can be subdued, and the attack reduced to the quiescent stage.

Commonsense tells us that if an interval operation has no mortality, it is our duty to operate on our cases only in that condition. It is no good saying that acute cases cannot be reduced to it. All cannot, but these are very few in number. The great majority can, and ought to be. I know that a great many cases may be operated on *very early* in an acute attack without risk, and if the immediate operation is confined to that period nothing can be said against it; but this does not hold good with the later stages of the attack, and it is the extension of the same principle to these later stages that has led to this high mortality in acute appendicitis treated surgically.

I believe that consideration of every case on its merits, and the recognition of the danger incurred in handling intraperitoneal localised foci of septic matter, would effect better results. And they are needed. Take the returns of appendicitis for the surgical wards of the Western Infirmary for the years 1898-1911, and I find that the number of cases is 1,927, with 231 deaths, a mortality of 11·9 per cent over all. As these figures include interval cases, where the mortality is negligible, it really represents a very high death-rate amongst the acute cases, and is considerably above what my 300 cases show. If this high mortality can be avoided I think it ought to be, as the difference between the two sets of figures means that only 60 patients should have died instead of 231. This is a rate of mortality that, I think, demands careful thought, for if any line of treatment entails such results it should not be persevered with.

I wish my Western Infirmary colleagues—some of whom are strong advocates for immediate operation in acute cases, and who practise it—would give their infirmary returns. It is only by getting hospital figures from the same institution that any reliable conclusions can be drawn, for the same class of case comes to every surgeon. A mixture of private and hospital figures is of absolutely no use for comparative statistics.

SANATORIUM TREATMENT OF PULMONARY TUBERCULOSIS.[1]

By JAMES W. ALLAN, M.B., C.M.,
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We hear a great deal said for and against sanatoria. We all know the proverb: "Doctors differ"; and certainly with regard to the value of sanatorium treatment there is a very great difference of opinion in the medical profession. We have enthusiastic advocates for, and defenders of, these institutions who make very great claims—in some instances, I think, extravagant claims—on their behalf. The impression left on one's mind after reading some of those eulogistic utterances is that if we only had a sufficient number of sanatoria distributed over the land the dreaded "white plague" would cease, and consumption would be a thing of the past—over and done with. That, truly, is "a consummation devoutly to be wished." It is one for which thousands—nay, hundreds of thousands—of human hearts, wrung with agony for the losses of the past and fears for the future, earnestly yearn. It is a beautiful dream; but even if the land were dotted over with sanatoria, would the dream be realised?

Then, again, we have those who do not "believe" in sanatoria—those who condemn them utterly, and discredit all their claims for usefulness. Those opponents declare that the open-air sanatorium treatment is a delusion and a snare; that patients enter them, get fattened up, and go home—to die. They refuse to accept the favourable reports which emanate from sanatoria, and cry out for hard matter of fact and rigidly accurate statistics. Nay, some of them declare that they must have actuarial statistics—not the figures supplied by sanatorium physicians, but figures supplied by skilled professional statisticians. They insist that every case must be traced and followed to the end. Until these terms are complied with they refuse to regard the results of sanatorium treatment as worthy of serious consideration. In the meantime sanatoria are held by them as condemned.

Now, here we have two extreme and antagonistic opinions

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[1] Read at a meeting of the Glasgow Northern Medical Society held on 7th March, 1911.

—the optimistic and the pessimistic. They cannot both be right. Perhaps some of you may be inclined to say:—"It is a strange thing that the doctors should differ so much on this subject." Well, perhaps it does look rather strange, but I would like to call your attention to the fact that we find, outside of the medical profession, strong—nay, violent—differences of opinion among intelligent, well-informed people over well-worn themes such as—let us say—"bimetallism" or "Tariff Reform."

Before going further I wish to say, in reference to the matter now before us, that I give those who hold the extreme views to which I have just referred full credit for good intentions and honesty of purpose. The personal equation plays a part in the formation of all judgments.

Personally, I have no hesitation in rejecting both the optimistic and the pessimistic opinion regarding sanatoria. I am satisfied that these extreme views are both erroneous, and that the truth lies between them. I believe—and I have good reason for believing—in the usefulness of sanatoria. But at the same time I fully recognise that their sphere of action is a limited one. And I shall now try in the following brief remarks to convey to you the reasons for the faith which is in me, founded chiefly on my experience at Bellefield Sanatorium, Lanark. But I may remark in passing that I entered on duty at Bellefield with forty years of professional experience at my back—forty years in which I had ample opportunities for observing, studying, and treating tuberculosis in its various phases.

Taking Bellefield, then, as the basis of my remarks, I shall first give you a sketch of the place; then an outline of the conditions under which the patients live and the treatment they receive; and, lastly, I shall place before you the results of treatment for the sanatorium year, September, 1909, to September, 1910, with comments thereon.

Bellefield is well deserving of its name. It is a beautiful place. In summer it might be called a little earthly paradise, with its fine trees, green fields, blooming flowers, and singing birds; and even in winter it has charms of its own, and presents an ideal Christmas scene when its fir trees are laden with snow. We have no Glasgow fogs there. The air is pure and sweet and exhilarating. We sometimes have a little mist, but it is clean mist.

The little estate in the possession of the Glasgow and West of Scotland Branch of the National Association for the

Prevention of Consumption contains about 27 acres, and something over. It lies on a hillside, and comprises pasture land and woodland. Bellefield stands about 600 feet above sea level. The mansion house is utilised as administrative department and accommodation for the staff. There is a good kitchen and a well-equipped washing house and laundry. The lawn in front of the house is adorned with choice coniferous trees and flowering shrubs.

The sanatorium stands a short distance from the mansion house. Originally it consisted of one pavilion and five châlets or huts, and provided 30 beds. Since the erection of the new pavilion the total number of beds is 53. When I went on duty in Bellefield in 1909 the number of beds occupied was 30 or 31. In 1910 the number of beds to be occupied was increased by 10, by sanction of the Council. Owing to the money question it was not deemed prudent to go beyond that. We have had more than 40 patients in Bellefield at one time, but never our full complement. As I have said, the question is one of money. More funds are wanted. The Council has done the best possible with the means at its disposal. It is a pity that beds should stand empty in a place so well provided with means for the restoration of health.

Both in the pavilions and in the châlets patients are exposed to fresh air night and day, and they soon learn to appreciate the benefit of this. Even in stormy weather the windows are kept open, but in the case of drifting rain or snow the windows on the exposed side are temporarily closed, but even then there is a free circulation of air from the other windows which remain open. In exceptional cases the patient may for a time be protected from the violence of the wind—for commonsense must be allowed to play a part in all things—but, as a rule, patients dislike interference with the free circulation of air. Of course, when they are in bed they are covered with blankets, and have their legs thrust into protecting sacs, and, in cold weather, a hot-water bottle at their feet. Only their faces are exposed, and the patients do not seem to fear the weather much. Early cases or moderately advanced cases not only stand this treatment well but rapidly improve in appetite, put on weight, gain in strength, and improve in colour.

It is surprising—and very pleasing—to find how quickly most of these cases respond to the fresh air and good feeding, and if those who contribute to the support of sanatoria could witness the transformation which takes place in those pale, emaciated, and depressed invalids—could see colour coming back to the pale cheeks, flesh restored, strength returning, and a cheerful smile on the face—I think they would find themselves richly rewarded.

These remarks apply to early cases, or cases only moderately advanced in the disease. But for cases in the more advanced stages the thorough-going open-air treatment of a sanatorium, especially in winter, is too severe. A sanatorium is not meant for the reception of such cases. No doubt in some instances even advanced cases improve considerably, but I think, all the same, that the treatment is too trying for them. These advanced cases should be isolated in hospitals where they would receive suitable care and attention. They are a source of danger to their families and to the public: they propagate and spread the disease. Some ten years ago I spoke and wrote about the necessity of dealing with this class of cases, and urged the duty of making provision for them, seeing that the doors of our general hospitals were closed against them. Perhaps some day something effectual will be done in this very important matter, which has a double claim: that of humanity to the afflicted one and his family, and that of public safety.

A beginning to the good work was made by a lady—the late Miss Brown, of Lanfine. The Lanfine Home for Consumptives offers a refuge to the advanced patient. All honour to this worthy lady's memory.

But I am getting away from the subject which is before us to-night, namely, sanatorium treatment, with Bellefield as the special theme. When patients are admitted to Bellefield they are always kept in bed for the first few days till we are satisfied regarding their temperature and pulse. Temperature and pulse are taken four times a day. If the temperature is normal the patient is allowed up for some hours, then allowed to remain up for supper, and, if the condition continues satisfactory, he is permitted to get up for breakfast. But even with this liberty he is not permitted to do as he likes. There are periods of rest to be observed. After meals he rests, lying down in bed. And when he is permitted to take walking exercise the length of the walk is prescribed.

The following may be taken as a sketch of a patient's day, that is to say, the day of a patient who is doing well and maintaining a normal temperature:—He gets up at 7 A.M., and going to the lavatory performs his ablutions.

including cleansing of the teeth and mouth: great importance is attached to cleansing of the mouth and teeth. If the teeth are decayed and foul, the food is not properly masticated, and at the same time it is charged with offensive matter which provokes decomposition, and so tends to poison the system. Patients ought to have their teeth attended to before entering a sanatorium, for if they cannot chew their food properly they will suffer from indigestion, and they will fail to get the full benefit of the nourishment which they put into their stomachs. The efficient digestion of food is the foundation on which the improvement of health is built, for on that depends the formation of the blood, and from the blood all the tissues are formed and renewed. So fully is this recognised by the authorities of the navy and army, that a careful inspection of the teeth forms an essential part of the examination of recruits seeking admission to these services. Patients are also taught to attend to the state of the bowels, as this is likewise a matter which seriously affects health. Ample provision has been made at Bellefield for personal cleanliness in the form of well equipped baths and lavatories. At 8·30 the patient goes to breakfast, which consists of porridge (three-quarters of a pint), a pint of milk, bacon and egg (varied with fish, boiled ham, &c.), and bread, butter and marmalade, *ad libitum.* He rises from breakfast about 9·15, and if he is a smoker he has a smoke. The use of tobacco is permitted with certain restrictions. Smoking before food is strictly forbidden. Perhaps it may be said that the less the patients smoke the better. At the same time it is recognised that an absolute prohibition would entail discomfort and discontent in the case of habitual smokers, and it is better that they should have limited indulgence openly and above board rather than be tempted to seek gratification in a surreptitious manner. In most cases I do not think that a smoke in the fresh air after meals seriously interferes with health. Cigarette smoking is an undesirable habit for youths whether they are consumptive or not.

I may mention that alcoholic drinks are forbidden, and if a patient is found intoxicated he incurs the penalty of dismissal.

The patient rests for half an hour, and then goes to work, if in the opinion of the medical officer he is fit for work and likely to benefit from it. Great care is exercised in this matter.

If there is elevation of temperature or blood spitting, of course work is interdicted, and no patient is urged to work against his will. The period devoted to work is nominally two hours, practically it is an hour and a half: the work is graded; there are three classes—"A," "B," and "C."

"A" comprises cutting logs of timber into sections with a cross-cut saw. Patients in this squad use pick-axe, shovel, and barrow. This is the heaviest class of labour.

"B" includes cleaning paths and plots from weeds with a Dutch hoe, trimming borders, breaking up firewood, painting châlets, &c.

"C" is the lightest class of work, and consists in cleaning brasses, sweeping the pavilion platforms, and keeping the neighbourhood free of litter, sharpening tools, making stakes for the gardener, &c. The patient is put on work after he has been a short time in the sanatorium, if he is considered a suitable case for it. He is first put in squad "C": if he does well, then he is transferred after a time to squad "B": and, lastly, he is put into squad "A," and engages in heavy work.

But this so-called heavy work is not of an exhausting nature; it is conducted with prudence, and is only of short duration.

The object in giving patients work is twofold: it helps to keep the sanatorium and its grounds in order, and it benefits the health of the patients. Both of these aims are legitimate and commendable, but the latter is from the medical point of view the more important. I am quite satisfied that the work is beneficial to the patients. And they themselves recognise the fact. It tends to improve their appetite, strengthens their muscles, and improves their breathing. It is undesirable that men in fairly good general health, eating heartily, and putting on weight, should spend the whole day in lounging idly about. Many of our patients have been accustomed to some form of manual work, and a complete cessation of physical exertion combined with good living would merely tend to the accumulation of fat, and a loss of tone in the muscular system.

And there is the psychical as well as the physical condition of the patient to be taken into consideration. When a patient is engaged in some work he is in a better state of mind than if he were idling through the whole day without a purpose. The brief spell of work tends to cheerfulness and hopefulness, and the man feels that he is able to do something. Indeed, when a patient is put on work his spirits tend to rise, for he knows that means the medical officer is satisfied that he is improving in health, and fit for some exertion. In some sanatoria patients engage in more strenuous work, and work more hours than at Bellefield.

Perhaps it is desirable that our patients should have more time devoted to work, but I do not believe in giving them severe labour. It should be moderate exertion, and the result should always be carefully observed. If a man feels depressed and languid after work, or if his temperature goes up, he should be put on rest. The object of giving work is to benefit the patient, not to exhaust him. The whole matter requires to be dealt with in a prudent, discreet manner.

In dismissing the subject of labour I may call attention to an important point. The man who has had his muscles kept in good condition by moderate exertion in the sanatorium is thereby rendered more fit to resume his work when he leaves the institution.

After work is over the patient rests for half an hour. Then he dines at 1·30. Dinner consists of half a pint of soup; meat, 4 to 6 oz., and potatoes; pudding; and a pint of milk. After dinner comes rest in bed for half an hour, and then the patient goes forth for a walk. There are charming walks in the neighbourhood. The scenery about Lanark is beautiful and interesting. It presents all the delightful variety which is furnished by hill and dale, wood and water. At first the patient merely strolls about the sanatorium grounds, and these are sufficiently extensive to afford quite pleasant promenades. Then he is permitted to go down to Leechford, where there is a little bridge over the river Mouse. This is a short walk but an attractive one. The valley of the Mouse is very picturesque. Next, he may take the high road and walk as far as Findlater's farm, then to Cleghorn bridge. This high road, which goes on to Forth and Edinburgh, is, like most of the roads in the neighourhood of Lanark, kept in beautiful condition. It is laid with red stone "metal" from Cairn Gryffe, near Tinto, and the red road harmonises beautifully with the surrounding greenery. The longest walk consists in going to Cleghorn bridge and returning by the sylvan path through Cleghorn woods in the valley of the Mouse, and so back to the sanatorium by Leechford. Those of you who know the district will agree with me that this is a delightful round. It is one which is much appreciated by the patients.

On returning from their rambles patients have afternoon tea (4·30). Thereafter they may engage in games such as bagatelle and draughts. Supper comes at 6·30, and consists of cold meat, fish, mince or sausages, bread, butter, and jam. After supper the most popular form of entertainment seems to be music, and to this the evenings are chiefly devoted. We usually have one or more patients able to play on the piano or violin, and many of them sing. There is usually a concert on Saturday night, and these entertainments are a source of great pleasure. A visitor who happened to drop on Bellefield while one of these concerts was in progress might well wonder if he had not made a mistake. The music, the merriment, and the hearty applause are not suggestive of sickness or suffering. These musical evenings seem to keep the patients in good spirits, and I think the singing (in moderation) is good for them. Eight o'clock is the hour for retiring to rest. Half a pint of milk is served at 9 P.M. And such is the day of the Bellefield patient who is doing well.

Patients who are less fortunate are kept at rest, or even kept in bed. Elevation of temperature and "rest" go together, and hæmoptysis and pleurisy call for the same restriction.

No doubt bad weather sometimes interferes with work and walking, but in that case there are games to fall back on, and, better still, reading. The Sanatorium library is supplied with a fine selection of entertaining and interesting books. And here I must mention with gratitude that our patients have been cheered, amused, entertained, and instructed by many kind friends from outside who, in disagreeable winter weather, have come from Lanark, or even journeyed from Glasgow, to help to dissipate the gloom which is apt to settle on all of us when the days are short and dark, and we are kept indoors. These good Samaritans have given lectures and musical entertainments which afforded the patients keen pleasure, and have left a delightful memory behind them.

The Sanatorium is much indebted to the clergymen of Lanark, who conduct services for the patients on Sunday afternoons, and these gentlemen have also given interesting lectures.

The treatment practically consists of fresh air, good food, regulated exercise, and rest. Drugs here naturally occupy a subordinate place, but, of course, they are employed when their use is indicated. Alcoholic stimulant forms no part of the routine treatment, but it is administered when occasion requires just as any other medicine would be. I think you will now have some idea of the manner of place Bellefield is, and of the mode of life followed by the patients.

The full term of residence in Bellefield is 4 months = 16 weeks = 112 days. In some cases an extension is granted, and in others the patients leave before the expiry of their four months. The average residence in 1909-1910 was 95·89 days. But before leaving the Sanatorium and turning to the results of treatment, I may mention that the pavilions are warmed by radiators which are heated by steam, and that the whole place is lighted by electricity. We have a dynamo and a 60 cell storage battery; also, an engine to drive the machinery in the laundry. Steam is supplied by two Cornish boilers. Our water is derived from wells, supplemented as required by the Lanark supply. Our sewage is treated in a septic tank, and the effluent ultimately finds its way into the Mouse.

And now let us turn our attention for a little to the work done in Bellefield Sanatorium in the year September, 1909-September, 1910. One hundred and thirty-six patients were admitted in that time, being thirty more than in the previous year; but in this connection it is to be remembered that ten additional beds were occupied. The year was in some respects an unsatisfactory one. In the earlier part we had difficulty in obtaining the class of cases which are likely to benefit decidedly from sanatorium treatment, and, indeed, comparatively few cases of any kind presented themselves at the Dispensary. You are probably aware that Bellefield is recruited from the Dispensary in Cochrane Street. The Dispensary is conducted by Dr. James Scott, and he selects cases which he deems likely to benefit by treatment at the Sanatorium. Well, in the earlier part of the year under consideration there was not much room for choice, for, as I have said, the patients were comparatively few, and of these still fewer were suitable for the open-air treatment. Under these circumstances my colleague could only send the best of the cases he had at his disposal, and a number of these were not desirable from the sanatorium point of view. As may be anticipated, the results were in many cases correspondingly unsatisfactory. It was found advisable to send some of the patients away before they had fulfilled their complete term of residence. We had three deaths, one being that of a poor fellow who went downhill and was too ill to be removed, and the other two were cases of severe pulmonary hæmorrhage.

In March, 1910, however, things began to improve, and we got in more cases—and more suitable cases—and we were enabled therefore to occupy 40 beds, as had been sanctioned by the Council. During the year 126 cases were dismissed. Cases are classed in three groups according to the degree of severity of the disease. Stage I means early, limited, and slight involvement of the lungs. Stage II means more extensive and advanced areas of disease, and Stage III means far advanced destructive changes in the lungs, frequently attended by persistent high temperature and progressive loss of flesh and strength.

Dividing the 126 cases dismissed during the year into the three classes, we find that in Stage I 15 cases were dismissed as "apparently arrested," 12 much improved, and 5 improved —32 in all.

In Stage II, 4 apparently arrested, 19 much improved, 38 improved, 8 not improved, 4 irregular, 1 at own request, and 1 died—in all, 75.

In Stage III, 6 improved, 11 not improved, and 2 died—in all, 19.

These figures show clearly enough what one would naturally expect to find, namely, that the best results were got in the least advanced cases.

Taking all the cases together (without distinguishing the stages), we find that in 19 the disease was apparently arrested, 31 were much improved, 49 improved, 19 not improved, 4 dismissed "irregular," 1 at own request, and 3 died.

It may be thought that these results are disappointing. But it must be borne in mind that of the 126 cases only 32 were classed in Stage I, while there were 75 in Stage II, and 29 in Stage III. So that taking Stage II and Stage III together (the advanced and the more advanced) we find that they amount to 104, while in Stage I (the early stage) we have only 32—about a quarter of the total number. Seeing that the early cases are in such a decided minority, it need be no matter for surprise if the results of treatment are not all that could be desired.

It may be asked, What is meant by the term "apparently arrested?" It means that the patient is dismissed in excellent general health, and that no signs of active disease can be detected in the lungs. Then why don't we put him down as "cured?" We don't dismiss any cases as "cured," because time alone can show whether they are permanently cured or not. That many of the cases dismissed as "arrested" are in reality cured I see no reason to doubt. It is a well-known and frequently quoted fact that, in making *post-mortem* examinations, it is common to find in the lungs of persons who have died from accident or from disease other than tubercular disease the clear evidence of old tubercular disease in the lungs which had been healed long ago. We have thus proof positive that consumption is frequently spontaneously cured, even in advanced cases, for many of these lungs show unmistakable evidence of old existing excavations which have shrunk and closed, leaving puckered depressions to mark the site of the cavity which formerly existed there.

If, then, severe tubercular disease in the lungs frequently heals up in persons who have presumably been leading ordinary lives, need it be a matter for surprise if this occurs still more frequently in persons who have had the benefit of good food, fresh air, and regulated life of a sanatorium. Is this not a reasonable expectation? And yet some people seem inclined to deny it, and to refuse the claim of the sanatorium to benefits conferred. It seems to me that such persons are very unreasonable. Of the patients who have been dismissed from Bellefield in a satisfactory condition, many have turned up to report themselves from time to time. Some have maintained good health, are working steadily, and enjoying life. Some have fallen away to a certain extent, and have rather precarious health. Some are found to be going steadily downhill. With regard to the last two classes—those who are in precarious health and those who are going downhill—how often do we find that they have been compelled by circumstances, over which they had little or no control, to return to their old environment and mode of life; perhaps to a small stuffy house in a crowded part of the city ,where the family object to open windows, and where, if the windows were opened, it would be only to admit foul air and perhaps filthy fog; probably to poor food badly prepared; perhaps to a dusty or otherwise unhealthy occupation. And in some cases the possibility of re-infection cannot be altogether ignored.

My opinion is that many of the cases which are dismissed from Bellefield in a satisfactory condition would remain so, and become completely and permanently cured if they could, on leaving the sanatorium, secure a healthy house, plenty of fresh air, good food, and a suitable occupation. But, as has been often said, consumption and poverty go hand in hand, and they are a grim pair.

With regard to the patients who are dismissed as "improved" and "much improved," I have a word to say. Some of these cases continue to do well after dismissal, and, like the cases dismissed as "apparently arrested," I see no reason why in many instances they should not go on to complete recovery in the course of months, or years, if they could continue a course of life on sanatorium lines with plenty of fresh air. But it is too much to expect that somewhat advanced cases can be "cured" by a four months' residence in a sanatorium. The completion of the good work begun in the sanatorium may require many months—many years. No sudden change can be expected in a tubercular lung even under the most favourable circumstances. A patient with pretty advanced disease may under sanatorium treatment rapidly gain weight and improve in appearance, so that on dismissal his friends, or superficial observers, may fancy that he is restored to health. But the fact that a man has gained a stone or two stones in weight is no guarantee that his pulmonary condition is correspondingly improved. On listening to the chest of such a patient the physician may be disappointed to find that the physical signs of disease are practically *in statu quo*. Such a patient returning to his old environment, and possibly to his old bad habits, such as excessive drinking and late hours spent in an unwholesome atmosphere, may rapidly go downhill: the load of fat which he has acquired soon melts away; the cough becomes aggravated, the sputum increased, the strength goes down, and within even a few months of leaving the sanatorium such a patient may be reported dead.

Cases such as this are quoted as examples of the futility of sanatorium treatment. But is it fair to do so? When he left the sanatorium the patient was told that, while his general health had been improved and his weight increased, the pulmonary condition still required medical care and attention, and he was warned to take good care of himself, to lead a prudent life, and, if possible, get a situation outside of the city, where he could enjoy fresh air. And when such a man returns to the old environment and the old habits, it grieves but does not surprise the physician to learn that he has relapsed, and later to hear of his death. Of course, it may be said, and said with truth, that in many instances the recommendations of the physician constitute a counsel of perfection with which it is not in the poor patient's power to comply. And this brings us back to the great *desideratum*, viz., healthy conditions for our patients after they have left the sanatorium.

To revert for a moment to the subject of increase of weight, let me say that the rapidity with which this takes place is in some cases surprising. It is not uncommon to find cases in which a stone, a stone and a half, two stones, and even more are put on during a four months' residence in Bellefield. But we do not congratulate ourselves on these pronounced cases of obesity. Up to a certain point the recovery of weight is a matter for satisfaction, but when the patient has reached his normal average weight, and perhaps a pound or two more as a working margin, a further rise is undesirable. The load of fat does not benefit the man, and it soon melts off when he returns to work and everyday life.

There are certain cases of a chronic type frequently found in middle-aged persons which are regarded by my colleague (Dr. Scott) and by myself as not altogether unfitted for sanatorium treatment. They are cases in which we cannot under any circumstances expect a cure, for the fibroid changes which have taken place in the pulmonary tissue seriously and permanently impair the function of the lung. But these cases often mend markedly in general health and strength, and on leaving the sanatorium are able to resume work. They may for a considerable time—it may be a long time—maintain a fair standard of health if they take ordinary care of themselves. The good nourishment, fresh air, and regulated life have raised him to a higher platform, and, under favourable circumstances, he may go on for many years enjoying tolerable health and earning his living; but, of course, this is not the type of case for which sanatoria were intended. Early, or only slightly advanced, cases are those in which we may with some confidence hope to check the progress of the disease, and facilitate the start of those reparative processes by which Nature may in the end effect a cure.

People say, Why should you have difficulty in obtaining plenty of early cases? Surely there are enough in Glasgow to fill Bellefield and all the sanatoria in Scotland to overflowing. Yes: that may be—and probably is so—but they do not present themselves at the dispensary, or otherwise seek admission. No doubt one reason is that the victims of pulmonary tuberculosis try to ignore the disease as long as possible; and, it must also be confessed, that in the incipient stage the evidence may be slight or misleading. Perhaps the patient may merely feel languid, show some loss of appetite and weight, feel somewhat short of breath on exertion, and cough a little. There may, or there may not, be slight elevation of evening temperature, and on examining the chest some rather indefinite physical signs may be detected; perhaps nothing noteworthy may be found in the chest. The case causes some anxiety; there are features in it which justify suspicion, but do not warrant a decided opinion; the evidence does not afford sufficient grounds for a diagnosis: and there is a desire not to cause needless alarm to the patient and his friends.

Such a case may end in a return to the usual health without any further development, or it may linger in this doubtful state for a time, or it may rapidly develop unmistakable signs of the disease; but in some cases neither the patient nor his friends suspect that anything is wrong till suddenly a little blood is coughed up. Then, on physical examination, unmistakable evidence of tubercular mischief may be found; sometimes, however, the signs are slight.

This onset of phthisis is often a difficult thing to deal with. The mischief may have advanced considerably before there is any good reason to suspect, and there may be symptoms which cause a suspicion which there are no physical signs to confirm.

I would only say that if a young man or woman in the period of growth begins to droop in appearance, loses appetite and flesh, has a slight cough, and a tendency to shortness of breath, it is time to take alarm. There may, or there may not, be elevation of evening temperature: there may, or may not, be slight physical signs at the apex of a lung: but, in any case, action should be taken at once. The patient should be sent to a sanatorium or to the country under medical supervision, and no time should be lost. It is well known that the tendency to develop consumption runs in some families, which seem to offer a specially suitable soil for the growth of the tubercle bacillus. In such families the young people may drop off one after another just as they reach manhood and womanhood.

It is difficult to find language to express the sickening misery and melancholy accompanying these family tragedies. Alas! how often do we see young men, about 21 years of age, fall victims to this dread disease. In families where such a predisposition exists, the very slightest indication is sufficient warning; but, indeed, in many such cases all preventive measures seem to be ineffectual in checking the development of the disease, and all medical treatment powerless to avert the fatal issue.

This is the gloomy side of the picture, but there is a more cheerful aspect of it. You will meet with many persons in middle life in the enjoyment of vigorous health who will tell you that in their youth they were regarded as being in a "decline," but that with change of environment and mode of life, and with advancing years, they got rid of their bad health. Believe me, there are hundreds of thousands of people at this moment in the enjoyment of good health and taking their share in the battle of life who at an early part of their existence passed through a more or less severe attack of pulmonary tuberculosis—possibly in some instances unknown to themselves, and unrecognised by those around them. And I am by no means alone in holding this opinion, for it has the support of distinguished authorities on tuberculosis.

Well, then, to return to the point at which I left off, I think that unwillingness to recognise the disease on the part of the patient, and the difficulties attending a diagnosis in the very earliest stages of the malady, are two causes which may partly account for the comparatively small number of incipient cases seeking admission to sanatoria.

Another cause is the unwillingness of a man to give up work, especially if he is a married man with a family depending on his exertions. Some consumptive patients keep on at their work as long as they are able to drag themselves about.

And there is still another reason which I believe deters patients from seeking admission to sanatoria, and that is the fact that persons who have been treated in a sanatorium are ear-marked as tuberculous subjects, and, therefore, regarded as "dangerous." As such they are excluded from the public services, and regarded with aversion by their fellows in the factory and workshop. Old sanatorium patients frequently find difficulty in obtaining employment. Now, this is a very serious thing for a working man. We all know—the public is thoroughly awakened to the fact—that consumption is an infectious disease, and under certain circumstances a very dangerously infectious disease. The safety of the individual and the health of the community make it necessary that this truth should ever be kept before our eyes. Consumptive patients who are filthy in their habits, and careless in the disposal of their sputum, are a great source of danger to those who come in contact with them, and the houses in which such patients live are dangerous for those who frequent them. In such houses the inmates are all exposed to a great risk of infection. A dwelling place of this description become a hotbed for the propagation of the disease.

These things are now pretty well known to the general public. But while fully recognising all this, it is surely unreasonable to brand a man as "dangerous" who is in the early stage of the disease, who is scrupulously careful in the disposal of any sputum he may have, and who is cleanly in his habits. Why should such a man be shunned as if he were a walking pestilence?

But this exaggerated idea of the infectiousness of consumption seems to have got hold of the public mind. If this extreme, this exaggerated estimate, is to be accepted, then, in order to be consistent, every man in the community, rich or poor, who is known to be tuberculous should be avoided, and cut off from work and contact with his fellowmen. Is this practicable? Why, if it were possible to carry such a notion into practice it would paralyse trade, it would disorganise society. No! Let us preach the dangers of infection connected with consumption—and they are many and great—let us teach how these dangers are to be removed or minimised, and let us carry commonsense along with us.

Take the case of the doctors and nurses who attend on patients in a sanatorium for consumption. No doubt they are in clean, airy surroundings, and the patients are trained to be careful in their habits: but they are constantly coming in contact with the patients—examining them, feeding them, attending on them, conversing with them. Do they run great risks of infection? The matter has been carefully inquired into, and the result is practically this: those sanatorium officials do not suffer from tubercular disease more than the average of people outside, and the risk of infection (except from accident or carelessness) may be regarded as a negligible quantity.

I am very anxious that you should not go away with any false notion. I fully recognise the great danger of infection from consumptive patients, and I advise you ever to keep the danger before your eyes, and to warn others of it. But I advise you at the same time to carry commonsense along with you. It is especially to be regretted that this prejudice, this excessive bias, should be directed against discharged sanatorium patients. Those who are dismissed fit for work are usually in a good state of general health, they have been taught to be careful in the disposal of their expectoration, they have been educated as to the dangers which lurk in the sputum. Patients found spitting about are liable to dismissal. They use sputum flasks for the reception of expectoration.

Some persons think that this "educative" function of the sanatorium is more important than the "curative." No doubt it is a very important part of the work of a sanatorium. Patients are taught to live in a cleanly way, and to avoid being a source of danger to their neighbours. And when they leave the institution they are fitted not only to practise, but also to teach the lesson they have learned. And in this way sanatoria may be regarded as schools for the teaching of anti-tubercular doctrines and methods which will later be disseminated by the patients when they return to their homes, and so gradually a leavening of the whole community may be effected.

Perhaps that function alone is a sufficient justification for the existence of sanatoria: but I cannot admit that the "curative" function is to be lightly put aside. I frankly grant the limitations of the sanatorium from a curative point of view. I deprecate extravagant claims on that score; but at the same time I cannot close my eyes to the fact that the great bulk of those who pass through these institutions are greatly benefited in health, and many of them apparently have the disease arrested. Further, if more suitable cases presented themselves the results would be much better.

I shall detain you no longer. I have not appeared before you to make a special pleading on behalf of sanatoria. I have contented myself with trying to lay before you, openly and honestly, the facts of the case, leaving you to judge for yourselves. I make no apology for sanatoria; they do not require one. In my opinion, founded on personal observation, I am satisfied that they are doing good and noble work, and that they form an essential part of any scheme for the suppression of consumption. At the same time I am equally satisfied that their function is a limited one. It is well to frankly recognise this, and not make any extravagant claims on their behalf.

But to admit that the sanatorium has limitations is surely not to condemn it. All hospitals have their limitations; everything in this world, however good and useful, has its limitations. While sanatoria continue to afford relief to suffering humanity—sending out some patients with the disease arrested, and many more on the way to recovery—while they continue to educate consumptives in the habits and modes of life which tend to their own recovery, and prevent them being a source of danger to the general community, they are worthy of the confidence and support of the public. Those who contribute to the upkeep of these institutions may rest assured that they are helping in a good work, that they are relieving much sad and pathetic suffering, and aiding in the protection of public health; and, to repeat what I said in the earlier part of this address, if such persons could see the happy transformations which take place during residence in Bellefield, if they could see their poor, emaciated, desponding fellow-creatures restored to flesh and strength and cheerfulness, I think they would feel themselves richly rewarded.

In conclusion, if the funds of Bellefield were to be controlled by the vote of old patients and their friends, I would have no fear for the result.

NOTES ON A CASE IN WHICH CERTAIN SYMPTOMS OF SYRINGOMYELIA FOLLOWED ENTERIC FEVER.[1]

By JOHN BROWNLEE, M.D., D.Sc.

Spinal affections following enteric fever are comparatively rare. In a few instances spinal meningitis is associated with cerebral meningitis, but such cases are only occasionally observed. The lesion most commonly seen and described is that known as "typhoid spine," but even of this affection only two cases have been noted in the Glasgow hospitals during the last twelve years. These were described by Dr. Andrew Love in a former number of this *Journal*.[2] In this affection great pain occurs in the back—so great that movement is practically impossible. Associated with this are symptoms of incoördination in the legs, ankle-clonus, and exaggerated knee-jerks. The affection as I have seen it has followed attacks of the disease of considerable severity. After a lengthy convalescence it apparently completely disappears. The pathology is quite obscure. I am inclined to think, however, that it must be associated with typhoid nodes occurring inside the spinal canal. These nodes are not very infrequent. They occur usually, as far as I have seen them, from the fourth to the seventh week after the onset of the fever, and commonly during convalescence. When on the more superficial bones they can easily be palpated as periosteal thickenings which are very tender to touch. A single node is quite frequent, but multiple nodes are often observed. I have seen them on most of the long bones of the limbs, on the ribs, and on the thoracic cartilages. They nearly always subside, but in some instances lead to chronic thickening and abscess, which may occur even after years. The symptoms of typhoid spine suggest such a condition inside the spinal canal, the node giving rise to the great tenderness experienced on movement, and the pressure on the spinal cord to the spastic symptoms.

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[1] Read at a meeting of the Medico-Chirurgical Society of Glasgow held on 24th November, 1911.

[2] *Glasgow Medical Journal*, December, 1906, p. 423.

About two years ago, however, a case, described in this communication, was admitted to Ruchill Hospital, and as he has now been under observation since that time, the course of the disease can, I think, be adequately described. The following is the report:—

H. G., male, aged 32, admitted to Ruchill Hospital on 3rd February, 1910, certified suffering from enteric fever.

The history obtained was that the patient had been ill for a fortnight and in bed for the past four days. The symptoms began with sickness and headache, vertigo, and sleeplessness. The stools were loose and yellow. The only disease which the patient was said to have suffered from previously was measles.

The patient on admission was moderately nourished. The tongue was furred and dry. The spleen moderately enlarged and palpable below the costal margin. There was some abdominal rigidity on the right side. The heart, lungs, and liver were normal. A few rose spots were present on the abdomen. A marked lordosis was observed, which, according to the patient's statement, dated from his fifteenth year of age, and which he said had never caused him any trouble. The course of the fever was very severe. The stools were loose and green and the asthenia marked. The temperature reached normal on 23rd February, thirty-three days after the commencement of the illness.

Convalescence was good till 25th March, when thrombosis developed. The left leg became gradually more and more swollen, till half the thigh was involved. This did not subside, and on 14th April the left thigh measured 17¾ inches in circumference, and the corresponding measurement on other thigh was 16¼ inches.

Patient at that time developed an attack of psoriasis guttata, which he said he had suffered from previously. On 29th May, as no sign of improvement was noticed, lymphangioplasty was performed on left leg. Strands of moderately stout silk were passed through the subcutaneous tissues from the abdominal wall down the outside of the leg to the ankle, thence across to the inner aspect, and back up the external aspect of the leg to the abdominal wall. At the time of operation the measurements were: thigh, 21¾ inches; calf, 13 inches.

On 2nd June the dressings were removed. All the wounds of the leg were clean and healed. There was some œdema of the skin, due to the action of the liniment of iodine used during the operation to sterilise the patches of psoriasis. Measurements were again taken on 5th June, when it was found that at the same point the thigh measured 21 inches and the calf 12½ inches.

No further improvement occurred, and it was decided to allow the patient out of bed, which was done on 7th July, 1910. It was then found that the patient had some paraplegic symptoms. There was no wasting of muscles, but they were very weak, and their action not fully coördinated. The patellar reflexes were much exaggerated, while ankle-clonus and Babinski's sign were present. The sensation of pain was to a large extent abolished below the knees, and from the middle of the thighs downwards the patient had only a vague perception of the difference between heat and cold. In addition to defective sensation the patient complained of a feeling of actual coldness in the legs, and on palpation it could be made out that the legs felt definitely colder to the hand from the middle of the thighs downwards. The sensation of touch was not affected, and there was no difficulty with his sphincters.

On 13th August the result of a careful examination was to ascertain that muscular strength was returning, but the patient was still uncertain in his movements and felt much lumbar stiffness. The reflexes on the upper part of the body were normal, but the abdominal and cremasteric reflexes were absent. The patellar reflexes were much exaggerated and the ankle-clonus marked in both sides. The areas of aberrant sensation had increased. The disturbance of the sensations of pain, of heat, and of cold followed one another closely in distribution. Above a line drawn completely round the body at the lower costal margin these sensations were acute or even exaggerated; below this line, practically absent. Down the thighs, however, there was an area where these sensations were present, although impaired. Below the knees, again, sensation was much dulled, although not entirely absent. It seemed that there was a clear dividing-line about the last dorsal vertebra, and it was here that the feeling of stiffness was greatest. There was no pain or hyperæsthesia over the spine. There was great difficulty in the patient flexing the knees when walking. Otherwise the patient was in good health.

One month later, on 9th September, further improvement had occurred. The brawny swelling of left leg was still markedly present, but in spite of this and of his nervous condition the patient walked fairly well, and had more power over his knee-joints. The reflexes were much the same as before noted, though the ankle-clonus was less definite and the epigastric reflex had returned. The sensations of touch and pain were normal all over body. The sensations of heat and cold were still very defective. Both were only appreciated as touch, or sometimes in the case of heat, as pain, and they were confounded one with the other. This disturbance was well marked in both legs in front as high as Poupart's ligament; behind, as high as the third or fourth lumbar vertebra. Elsewhere these sensations were normal.

On 13th October a note was made on the patient's dismissal. The sensations of touch and pain were normal. The disturbance of the sensations of heat and cold was less marked, but these were still defective from the middle of each thigh downwards. The patient walked fairly well, but still had great difficulty in managing the flexion of his knees when walking. There was still swelling of the leg, but this was slowly lessening.

He returned for examination on 15th November. He was then walking better, and the swelling of the leg was less. Sensation seemed slowly improving.

Four days later he again returned for examination. The weather was very cold, and the patient said he was not walking so well, but an examination of sensation detected no regression.

Three months later, in February, 1911, the patient visited the hospital. He was walking better, but still complained of some difficulty when walking. The swelling of the leg was much as before. The disturbance of the sensations of heat and cold did not now extend above the knee. Sensation of touch was normal, but the knee-jerks were still slightly exaggerated, and slight ankle-clonus persisted.

After this, improvement was steady: on 16th April he had some time returned to work, and walking had greatly improved. He no longer complained so much of pain or cold. He lifted his feet better. There was still a difference in his legs, but the œdema was less. The disturbance of the sensations of heat and cold did not then extend above the middle of the calf. The knee-jerks were still slightly exaggerated and ankle-clonus was present in the right foot, while the plantar reflexes were normal.

His last visit was on 12th November, 1911. He was then in excellent health. He was able to do heavy work without fatigue, and had only swelling of the left leg after working two or three shifts on end, and this was cured by a night's rest in bed. The sensations were as follows:—

All were quite normal down to the junction of the middle and lower thirds of both legs. Below this he was aware they were not so active, but still was able to form accurate judgments. Light touch with cotton wool was correctly localised on both legs. A pin-prick was felt as a painful sensation everywhere except over an approximately circular area, including the left external malleolus and the skin for two inches above it. Heat and cold were nearly always differentiated, but in the lower third of both legs these sensations were delayed. In the left leg contact for two or three seconds was required. He sometimes confused hot and cold on the left side about the external malleolus, but not on either sole. The cremasteric and abdominal reflexes were present, but slight. The knee-jerks were still exaggerated. There was a tendency to ankle-clonus, especially on the left side, but it did not last for more than five or six contractions. On the right side the plantar reflex was flexor, but slight, though the leg was jerked up. On the left side the reflex was slightly extensor. He could stand steadily with his feet together and his eyes shut.

The case just recorded is obviously of a different nature from "typhoid spine." Pain was absent, or almost absent, uneasiness at the junction of the last dorsal and the first lumbar vertebræ being all that was complained of. If due to a typhoid focus, the focus was in all probability inside the spinal cord, internal pressure producing that dissociation of the heat and pain sense from that of touch common in syringomyelia. The fact that the patient had an old lateral curvature was very interesting in view of the frequency with which lateral curvature has been found associated with syringomyelia, and raises the question whether a slight syringomyelia may not have been present in this case before the attack of enteric fever. The most careful investigation failed to elicit any information which would throw light on the presence of symptoms of this disease between the appearance of the lateral curvature and the onset of the enteric fever. The patient had performed strenuous work, being a moulder in an iron foundry, and had apparently experienced no inconvenience whatever. It is possible, however, that a slight attack of this disease may have been present which cured itself spontaneously. If this were so, a focus to which the enteric bacillus could find an entry might be present in the spinal cord and account for the internal pressure to which the symptoms described might be due, developing for a time, and finally subsiding when complete immunity was attained. Syringomyelia has been noted to follow enteric fever and also septicæmia, but in these cases, apparently, the disease was progressive and ran its usual course. In this case, however, the disturbances have subsided, the patient being well, fit for work, and even capable of performing several shifts at a time. Whether he will continue well is another matter, but at the present date (9th July, 1912) there has been no return of the disease.

Obituary.

JOHN COULSON HOWIE, M.A., M.D. GLASG.

WE regret to have to record the death at Beamsville, Ontario, on 3rd ult., of Dr. J. C. Howie, formerly of Glasgow.

Dr. Howie, who was the eldest son of Rev. Dr. Robert Howie, was a student of the University of Glasgow, where he graduated M.A. Proceeding to the study of medicine, he graduated M.B., C.M., in 1889. Subsequent to graduation he spent some time in London, where he studied at the Golden Square Throat Hospital and at the Ophthalmic Hospital at Moorfields. He also took a course of study at the Rotunda Hospital in Dublin. In 1901 he graduated M.D.

Settling in Shawlands he was appointed a Dispensary Physician to the Samaritan Hospital. The strain of a busy practice told on his health, and on this account he left Glasgow some four years ago.

Deceased is survived by his widow, Dr. Mary Howie, who was associated with him in practice.

JOHN FORREST, M.D. GLASG., J.P.,
MOTHERWELL.

On 5th ult. there died in Motherwell, at an advanced age, Dr. John Forrest. Deceased graduated M.D. in 1857, and had been for many years in practice in Motherwell. Latterly, however, he had practically retired from active work. He was a J.P. for Lanarkshire, and was at one time Medical Officer of Health for Motherwell.

WILLIAM H. HILL, LL.D.,
CLERK TO THE ROYAL FACULTY OF PHYSICIANS AND SURGEONS.

W. INNES ADDISON,
REGISTRAR TO THE UNIVERSITY OF GLASGOW.

We feel that we cannot refrain from noticing the loss which Glasgow has sustained by the deaths, within a few days of one another, of Mr. William H. Hill, LL.D., and Mr. W. Innes Addison.

Dr. Hill, one of the leading members of the legal profession in Glasgow, was for many years, and up till the time of his death, clerk to the Royal Faculty of Physicians and Surgeons. He belonged to a very old and distinguished Glasgow family, the history of which is closely associated with that of the city.

Although engaged in a busy legal practice, he found time for historical and archæological researches. In his early years he transcribed a volume of old minutes of the Faculty of Physicians and Surgeons, and some time later he wrote a sketch of the history of the Masons' Incorporation. He was also the author of the *Annals of the Skinners' Incorporation* between the years 1516-1616. More important works were his *History of the Merchants' House* and *History of Hutcheson's Hospital*. Nor must his *Early Records of an Old Glasgow Family, 1520-1791*, be forgotten, a history of the family from which he was descended.

He was ever courteous and ready when appealed to. His reading of the minutes seemed inseparable from the association of the monthly meetings of the Faculty, and his delivery of the concluding sentence was marked by so much realism that the listener forgot that the day when "the poor were visited gratis and the Faculty adjourned" had long since gone. At the October meeting the want of his familiar presence on the right of the Visitor made one fancy that somehow the meeting was incomplete, and we only express the feelings of the present Fellows when we say that it will be long before his memory fades.

Mr. Innes Addison, registrar to the University, was likewise a member of the legal profession, although not practising as such. He was known to a much larger circle than Mr. Hill, as his official duties brought him in contact with all aspirants to a degree. All these Mr. Addison was ever ready to assist when in doubt, and his unfailing courtesy and good nature helped to sweep away the awe with which the raw and unsophisticated freshman approached an official of his (future) *Alma Mater*. In many cases the acquaintanceship thus begun ripened into lasting friendship. Mr. Addison's interests were wrapped up in the University, and he produced some years ago two volumes, to the making of which he cheerfully devoted many hours of hard work. These were the *Roll of Graduates* from December, 1727, to December, 1897, and the *Snell Exhibitions*. At the time of his death he had practically completed *The Matriculation Album*, from 1728 to 1858. His end was tragically sudden. He had gone home as usual from his office in the early evening, taking with him some work, and within a few hours he had passed away.

Glasgow is the poorer for their loss, and not the least affected of her citizens are those belonging to our profession.

CURRENT TOPICS.

Medical Graduation at Glasgow.—At the graduation ceremony on 10th ult. the following degrees were conferred:—

BACHELOR OF MEDICINE AND MASTER OF SURGERY (M.B., C.M.)

John Joseph Lowell, L.R.C.P., &c.

BACHELORS OF MEDICINE AND BACHELORS OF SURGERY (M.B., Ch.B.)

I. With Honours.

[1] 1. James Hinton Robertson.
2. Thomas Martin.
3. James Henry Dible.

II. With Commendation.

4. William Beatson Drummond.
5. Samuel Blumenfeld.
6. John Dickie.
7. Charles Aloysius M‘Guire.

III. Ordinary Degrees.

Charles Brash.
Adam Brown.
William Brown.
John Scouler Buchanan.
James Wilson Burton.
John Humphrey James Victor Coats.
Jane Malcolm Davidson.
John Maitland Forsyth.
John Erskine Fyfe.
Alexander Muir Gibson.
Maggie Logan Kirkwood.
Robert Aim Lennie.
James Ronald M‘Curdie.
Guy Dalzell M‘Lean.
John Malcolm Macpherson.
Kenneth Duncan Murchison.
Andrew Peden.
James Francis Quigley (Lambhill).
David William Reid.
John Ritchie Richmond Ritchie.
Alfred Leopold Robertson.
Edwin Robertson.
James Inglis Robertson.
Frank Shearar.
John Finlayson M‘Gill Sloan.
Alexander Robert Bogue Soga.
Graham Stevenson.
Ronald Stewart.
William Patrick Andrews Stewart.
William Taylor.
John Cameron Thomson Teggart.
Janet Morris Walker.
George Milroy Whish.
Frederick John Whitelaw.
Thomas Whitelaw.
William Ferguson Wood.

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[1] Mr. Robertson gains the Brunton Memorial Prize of £10, awarded to the most distinguished graduate in medicine of the year.

VICTORIA INFIRMARY.—Through a regrettable mistake it was stated in our Educational Number, published last month, that the Victoria Infirmary contained 180 beds. The correct number is 260 beds.

APPOINTMENTS.—The following appointments have recently been made:—

Thompson Campbell, M.D., C.M.Glasg. (M.B., 1895), to be Tuberculosis Officer for the West Riding of Yorkshire.

Donald Steel, M.B., Ch.B.Glasg. (1901), to be Medical Officer of Health at Booborowie, South Australia.

Ernest Watt, M.D.Glasg. (M.B., 1897), D.Sc., D.P.H.Camb., Medical Officer of Health for the Burgh of Partick, and Superintendent of Knightswood Hospital, to be Chief Tuberculosis Officer for the County of Durham. The salary is £500 per annum.

ST. ANDREW'S AMBULANCE ASSOCIATION: TWENTY-NINTH ANNUAL REPORT.—The twenty-ninth annual report of the St. Andrew's Ambulance Association was submitted by the council of the Association at the annual meeting on 23rd ult.

From it we learn that during the past year 9,528 calls were made on the waggons of the Association, and the total number of patients conveyed since the formation of the Association is now 126,205.

In Glasgow alone the number of calls was 6,170. This represents an average of 16·85 turns-out daily, or, leaving Sundays out of the calculation, 19·65. Out of the total of 6,170 turns-out, 2,994 were to accidents, and 3,176 to cases of illness. In 207 cases the waggons were not required on arrival. Of the 2,994 calls to accidents, 982 were from police offices, houses, and stairs, 1,114 were street accidents, 530 from public works, 258 from docks and wharves, 110 from railways and stations. 1,919 cases of accidents and 834 cases of illness were taken to the Royal Infirmary; 789 cases of accidents and 574 cases of illness to the Western Infirmary; 181 cases of accidents and 452 cases of illness to the Victoria Infirmary; and 305 cases were taken to the Maternity Hospital; the remainder being taken to their homes or other institutions. The waggons covered 32,574 miles during the year.

The number of motor waggons for Glasgow is three. The results attained by these waggons have been very satisfactory, and it is the council's intention during the ensuing year to add a fourth motor waggon.

There is no doubt that both in the case of accidents and urgent removals for operation, &c., great advantage has accrued to sufferers from the enhanced rapidity with which, by motor waggon, they are transported to the infirmaries, nursing homes, &c., and are so brought more rapidly within the reach of the latest resources of science in the cause of humanity. The council, however, does not consider it prudent entirely to replace the horse-drawn vehicles by motors, and, while it is expected that the greater part of the ambulance service will be accomplished by the motor waggons, it is intended to keep the horse-drawn waggons in reserve in case of emergency. These important changes in the method of transport necessarily involve heavy capital expenditure, while the annual cost must severely tax the resources of the Association. While the council has every reason to be satisfied with the financial results of the past year, it feels it necessary to make an appeal, more especially to the Edinburgh and Glasgow public, for increased support, in order that the Ambulance services may be maintained at their present high level.

ALVARENGA PRIZE OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA.—The College of Physicians of Philadelphia announces that the next award of the Alvarenga Prize, being the income for one year of the bequest of the late Señor Alvarenga, and amounting to about one hundred and eighty dollars, will be made on 14th July, 1913, provided that an essay deemed by the Committee of Award to be worthy of the Prize shall have been offered.

Essays intended for competition may be upon any subject in medicine, but cannot have been published. They must be typewritten, and if written in a language other than English should be accompanied by an English translation, and must be received by the secretary of the College on or before 1st May, 1913.

Each essay must be sent without signature, but must be plainly marked with a motto, and be accompanied by a sealed envelope having on its outside the motto of the paper and within the name and address of the author.

It is a condition of the competition that the successful essay or a copy of it shall remain in possession of the College; other essays will be returned upon application within three months after the award.

Enquiries should be addressed to Thomas R. Neilson, M.D., secretary.

LIFE OF SIR W. T. GAIRDNER, K.C.B.[1]—On 28th June, 1907, there passed to his rest the beloved teacher of many generations of Glasgow medical students, Sir William Tennant Gairdner. Eighteen months later it became known that Dr. G. A. Gibson, of Edinburgh, had been requested by Lady Gairdner and her family to select for publication some of her late husband's papers, and to prepare for the volume a biographical sketch of their author. Various causes contributed to delay in fulfilment of the pleasant and honourable task; but, these having been overcome, Dr. Gibson set to work last year, and devoted all his leisure moments to his labour of love. The result is the handsome volume of some eight hundred and odd pages, which is now before us, and of which more than a third is occupied by the biography.

Dr. Gibson has performed his task well, and in a manner befitting the subject.

William Tennant Gairdner, the second son of Dr. John Gairdner, was born in Edinburgh on 8th November, 1824. Dr. John Gairdner, a native of Ayrshire, studied medicine in Edinburgh, graduating in 1811, and becoming a Fellow of the Royal College of Surgeons of Edinburgh in 1813. Of his seven children, William alone entered the profession of which his father was a distinguished ornament. After the the usual primary training at a dame's school, William, with his brother, was sent to the Edinburgh Institution, at that time in Hill Street, a few doors from his father's house. A diligent and exceptional scholar, he was, when he proceeded to the University in 1840, possessed of excellent classical attainments, as well as a good general education. During the last of his undergraduate years he, like so many other students of that, and even of later times, contracted typhus fever; but, after safely passing through what was a serious attack, he graduated in 1845. A residence in Rome, as medical attendant to Lord and Lady Beverley, afforded him the opportunity of recruiting after his long and strenuous period of study, and at the same time gave him the advantages of travelling and seeing new men and things. Returning in the following year to Edinburgh, he commenced hospital work, and from then on till his retiral in 1900 he was, with the exception of a three months' break, continually on duty. He was appointed in 1862 to the Chair of Practice of Physic in Glasgow, then vacant by the death of Professor Macfarlane, and this Chair he continued to hold, with ever-increasing acceptance, till 1900.

[1] Glasgow: James MacLehose & Sons. 1912.

Before leaving Edinburgh for Glasgow he had come to be known as a pathologist and physician of the first rank. His contributions to medical literature had aroused widespread attention, and had stamped him as a worker of indomitable energy. How he sustained his reputation immediately after coming to Glasgow is fully told by Dr. Gibson in the story of his labours (in addition to the work of his Chair) in the newly-formed Public Health Department of the city.

His busy career in our University and city, the honours which, all unsought, flowed in on him, the enthusiasm he aroused, and the love towards himself which he inspired in the breasts of all his pupils, and, lastly, his retiral to spend the evening of life in the city of his birth, boyhood, and young manhood are all set forth. His private life, as much as it would be right to do so, is unveiled with due reverence and with mindfulness of his own words in a letter to an intimate friend—"These sanctuaries of the spirit cannot be brought much into the light of day." Many of his letters have been included by his biographer, and add inestimably to the picture.

Dr. Gibson has had a difficult task to perform. He has come to it equipped with skill and imbued with a spirit of reverent love, and the result must ever be to him a source of satisfaction, even as it will be one of gratification to the members of the Gairdner family. It will also increase, if possible, the feeling among his old students that in listening to his teaching they were indeed privileged.

We have here the entrancing story of a great and good man.

> "The spotless life, the simple faith, the guileless soul, the
> kindly heart."

Of the papers which form the second part of the volume some are on general, and the remainder on medical subjects. They need no commendation to Gairdner's students: these know that he touched nothing without adorning it. To others we would say that they cannot but be the better for reading them.

NATIONAL INSURANCE MEDICAL BENEFIT: THE GOVERNMENT'S PROPOSALS.—At a meeting of the Advisory Committee, held in London on 23rd ult., the Chancellor of the Exchequer submitted the proposals of the Government with regard to allowance for medical benefit under the National Insurance Act. After going over the ground of the controversy between the Government and the medical profession, Mr. Lloyd George outlined the suggestions that came before the Government as to the best method of distributing the amount available for medical attendance. There were three suggestions. The first was that every doctor be invited to join a panel. Secondly, in the event of the panel failing, that the money for medical attendance be handed over to the approved societies to be dispensed by them. The third was the establishment of a national medical service. There was a great deal to be said for this last, but the Government had, without under-rating the value of such a service, decided in favour of the panel system. They would therefore set about establishing that system, and if it were to fail, the provisions of the Act were adequate to enable them to proceed with the establishment of a national service, a service which would be quite compatible with free choice of doctor.

The Government's proposals are to add to the present figure (6s., including drugs, plus 6d. for tuberculosis) 2s. 6d., *i.e.*, 9s. in all for the non-institutional treatment of all diseases amongst the insured population. Of this sum, 7s. is to be the basis of the amount which is to be paid to the doctor for his services, including extras and tuberculosis. For drugs 1s. 6d. will be set aside. The remaining 6d. is for extras. It will be used, when necessary, to supplement the drug bill. When not necessary for that purpose, it will go to the doctor. In the case of an abnormal demand for drugs—say during an epidemic—the Government proposes to deal with such from a central fund.

Mr. Lloyd George suggested that the above financial arrangements be for a period of three years, at the end of which time there should be a reconsideration of the whole position.

The daily press, in commenting on the above proposals, expects that the new offer of the Chancellor of the Exchequer will be accepted by a majority of the practitioners throughout the country. It is difficult to foretell: but it will be a surprise to many if the terms be accepted unanimously; and the Chancellor and his colleagues doubtless await with interest the result of the deliberations of the British Medical Association Council, which meets next month to consider the situation.

In the course of his speech the Chancellor paid a tribute to the members of the Advisory Committee, whose advice had "largely influenced" the Government in their decision.

THE MEDICAL SOCIETIES OF GLASGOW.—The following are the office-bearers of the different medical societies of Glasgow **for the year 1912-1913:—**

MEDICO-CHIRURGICAL SOCIETY.

President,	MR. A. FREELAND FERGUS.
Vice-Presidents,	DR. GEORGE H. EDINGTON. DR. ALBERT A. GRAY.

Council.

Section of Medicine.

DR. W. K. HUNTER.
DR. DOUGLAS RUSSELL.
DR. FRANK J. CHARTERIS.
DR. J. S. M'KENDRICK.

Section of Surgery.

DR. FARQUHAR MACRAE.
DR. ROBERT KENNEDY.
DR. THOS. KAY.
DR. DUNCAN MACARTNEY.

Section of Pathology.

DR. JOHN H. TEACHER.
DR. C. H. BROWNING.
DR. J. SHAW DUNN.
DR. J. ARCH. CAMPBELL.

Section of Obstetrics.

DR. A. N. M'LELLAN.
DR. G. N. TURNER.
DR. G. BALFOUR MARSHALL.
DR. ALEX. G. BANKS.

Treasurer,	DR. SAMUEL J. CAMERON.
Editorial Secretary,	DR. ROBERT SPEIRS FULLARTON.
General Secretary,	DR. ARCHIBALD YOUNG.

OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.

Hon. President,	SIR FRANCIS HENRY CHAMPNEYS, BART., M.D., F.R.C.P.E.
President,	DR. JOHN LINDSAY.
Vice-Presidents,	DR. A. LOUISE M'ILROY. DR. G. N. TURNER.
Secretary,	DR. W. D. MACFARLANE. Jun.
Treasurer,	DR. WM. RITCHIE.
Editor of "Transactions,"	DR. DAVID SHANNON.
Reporting Secretary,	DR. DONALD DUFF.
Pathologist,	PROF. JOHN H. TEACHER.
Past President,	DR. A. W. RUSSELL.

Members of Council.

DR. E. H. L. OLIPHANT.
DR. NIGEL STARK.
DR. JAMES CRAIG.
DR. J. MUNRO CAMPBELL.
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SOUTHERN MEDICAL SOCIETY.

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President,	DR. JAS. A. AITKEN.
Vice-Presidents,	DR. JAS. H. MACDONALD. DR. DAVID LAMB.
Treasurer,	DR. ROBERT ADAM.
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Council.

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Dr. John Stewart.
Dr. W. K. Peden.
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Dr. Arch. M'Crorie.

EASTERN MEDICAL SOCIETY.

President,	Dr. George M'Intyre.
Past President,	Dr. John P. Granger.
Vice-President,	Dr. David Glen.
Secretary,	Dr. Hugh A. M'Lean.
Treasurer,	Dr. Joseph Green.
Reporting Secretary,	Dr. Andrew Granger.
Seal Keeper,	Dr. Alex. Johnston.
Auditors,	Dr. James Dunlop. Dr. J. C. Syson.

Council.

Dr. J. W. Turner.
Dr. Sam. Capie.
Dr. P. S. Buchanan.
Dr. W. J. H. Sinclair.
Dr. Alex. Munro.
Dr. T. C. Barras.

NORTHERN MEDICAL SOCIETY.

President,	Dr. John Baird.
Past President,	Dr. Robert G. Inglis.
Vice-Presidents,	Dr. R. D. Hodge. Dr. Wm. Ritchie.
Treasurer,	Dr. Thos. Dow Waddell.
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Dr. A. T. Campbell.
Dr. Jas. Todd.
Dr. J. B. Miller.
Dr. J. G. Connal.
Dr. Robert Grieve.
Dr. Malcolm Campbell.
Dr. A. J. Ballantyne.
Dr. Wm. Caskie.
Dr. Lewis MacLachlan.
Dr. J. Horne.

PARTICK AND DISTRICT MEDICAL SOCIETY.

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Past President,	Dr. John Morton.
Vice-Presidents,	Dr. J. Hamilton Campbell. Dr. John Taylor.
Treasurer,	Dr. W. S. Paterson.
General Secretary,	Dr. Edward J. Primrose.
Recording Secretary,	Dr. James Girdwood.

Council.

Dr. T. D. Brown.
Dr. J. Forbes Webster.
Dr. A. W. M. Sutherland.
Dr. John Gracie.
Dr. J. Gibson Graham.
Dr. James Wylie.
Dr. A. E. Ward.

ON THE NEED OF A UNIVERSAL STANDARD FOR OBSERVATIONS OF THE MORBIDITY OF CHILDBED.—Dr. A. W. Russell, who attended the International Obstetrical and Gynæcological Congress at Berlin as a delegate from the Glasgow Obstetrical and Gynæcological Society, suggested that a uniform standard of morbidity should be approved by the Congress. He pointed out that the closer and more general attention to this question of morbidity had led to an earlier recognition and more efficient treatment of septic puerperal conditions. The question had therefore an educational as well as a therapeutic value. He showed, however, that the methods of observation of puerperal morbidity still varied so much, both in individual work and hospital reports, that much of the value of the observation was lost. The temperature was taken in different parts, and at different hours. The first day was included by some, excluded by others; some were influenced by pulse-rate and noted it, others neglected it; abortions, also, and deaths were treated differently by different observers. He illustrated this by comparing the results of the application of four different well-known standards to the same series of cases. By the standard of Queen Charlotte's Hospital, London, every temperature above 100° F. (37·8° C.) was morbid, and there were 44 cases; while the usual Continental standard of 100·4° F. or 38° C. gave 32; the Rotunda Hospital, Dublin, which fixes its morbidity at a temperature over 99° F. or 37·2° C., on three consecutive observations after the first day with a pulse exceeding 90, and including abortions, but not deaths without fever, gave 16; and the British Medical Association, adopting as its standard 100° F. or 37·8° C., reached twice between second and eighth day, and excluding abortions, but including all deaths, gave only 12 cases, or little more than a quarter of the Queen Charlotte's Hospital standard. With such a disparity in these four standards it was surely time for some such body as the International Congress or its Committee to fix a clear uniform standard for the observation of puerperal morbidity, and especially for recording it in scientific communications.

REGISTRAR-GENERAL'S FIFTY-SIXTH ANNUAL REPORT.—There has just been issued as a blue book the fifty-sixth detailed annual report of the Registrar-General of Births, Deaths, and Marriages in Scotland for 1910. The general abstracts have already been issued, but in the final report for the year, which contains 600 pages, the figures are dealt with in greater detail. There are some interesting figures relating to the causes of death in Scotland. The death-rate of the year from *all forms of tuberculous disease* was 181 per 100,000, a rate which is the lowest Scottish death-rate from tuberculosis yet recorded. The death-rate from *phthisis* was 115 per 100,000, also the lowest yet recorded. In the large town districts the death-rate from all forms of tuberculosis was 193, in the insular rural districts 163, and in the small town districts 162. In the principal towns the rate was—Dundee, 255; Glasgow, 220; Greenock, 213; Coatbridge, 206; Partick, 141; Kirkcaldy, 150; Govan, 159; Aberdeen, 162. In Kilmarnock it was 197; Leith, 196; Paisley, 178; Perth, 177; Edinburgh, 171; Hamilton, 171; and Motherwell, 165.

In the principal towns the death-rate from phthisis was highest in Dundee, where it was 156. In Glasgow it was 138, in Perth 132, in Edinburgh 110, while in Partick it was 61, and in Govan 76.

Among other diseases the death-rates from which were comparatively low or lower than in recent years were enteric fever, whooping-cough, cerebro-spinal meningitis, pneumonia, and bronchitis. Among those the death-rates of which were comparatively high were scarlet fever, measles, and *cancer*. The death-rate from the last-named disease continued to increase, and was fully 25 per cent higher than in 1900, fully 60 per cent higher than twenty years ago, and fully 100 per cent higher than thirty years ago. It is very doubtful, however, says Dr. James C. Dunlop (who is responsible for the comments on the statistics), how much of that apparent increase is due to an increased prevalence of the disease and how much to improvement in diagnosis and more frequent recognition of its existence.

The death-rate from malignant disease in the principal town districts was 114, in the mainland rural districts 103, in the large town districts 95, in the small town districts 90, and in the insular rural districts 82. In the principal towns this death-rate varied from 161 in Edinburgh, 227 in Dundee, and 119 in Glasgow, to 51 in Govan, 67 in Kirkcaldy, and 74 in Paisley and Coatbridge. An attempt was made during the year to verify the ages of persons stated to be 100 years of age or more at time of death, and in nine instances the fact that the person was of such an age was completely verified.

SCIENTIFIC READING FOR THE PUBLIC.—"In all the medical schools of London a notice is posted over the door leading to the dissecting room forbidding strangers to enter. I propose, however, to push the door open and ask the reader to accompany me within, for, if we are to understand the human body it is essential that we should see the students at work." So writes Professor Arthur Keith in the delightful little book[1] which he has just published, and adds, "If we enter in the right spirit—with a desire to learn something of the structure of man's wonderful body with our own eyes—there is nothing in the room which need repel or offend us."

In his preface, Professor Keith tells us that the book treats of the history of the human body rather than of its structure and mechanism. That the latter, however, is not neglected is evidenced by the cleverly drawn description of the student dissecting the front of the wrist, and the equally clever description of the demonstrator removing the brain from the skull. But, on the whole, the history of the body is the main topic on which he discourses. In an early chapter he considers the thorny subject of man's place amongst animals. "When . . . we begin to study his body and compare it, organ by organ, with that of other animals, we see that his isolation disappears, and that it is the thick veil of civilisation in which he has so completely hidden himself that misleads us regarding his true position in the animal kingdom." This sentence prepares the reader for the lessons to be drawn from a personally conducted tour in the museum of the Royal College of Surgeons. Arrived there, the differences in human skulls are pointed out, and the break between human and anthropoid skeletons is reached. But by comparing the skeletons of the marmoset, the gibbon, the chimpanzee, the orang, and the gorilla with one another and then with that of a man, "we begin to see that the miracle of man's primate origin is not so impossible as it appears at first." From skeletons to teeth, from teeth to intestine, from intestine to brain—in all we can trace close similarity. Then, passing from structure to physiology and pathology, the close relationship between man and the great anthropoids is illustrated by two discoveries made of late years. These are the inoculability with syphilis, and Professor Nuttall's discovery that there is a resemblance between their respective bloods. In this last the resemblance is not very great, but "yet enough to show that in 'blood relationship' man and the anthropoids stand very near together."

Stature, proportion and growth, vestigial structures, and the erect posture are all considered. Then comes a lucid exposition of the development of the human body, followed by a chapter on malformations. The sexual characters and the racial characters of the human body, its mechanism, the great processes of degeneration and regeneration, and, lastly, the antiquity and genealogy of man are duly gone into.

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[1] *The Human Body.* In the "Home University Library." London: Williams & Norgate. [N.D.]

To present a subject like the present one in an easily assimilable form requires no uncommon skill. It is possible that a non-medical reader may not fully appreciate the difficulty of Professor Keith's task, and how well he has performed it. The volume will stimulate the man in the street to think, and its perusal will broaden his outlook on things scientific. We have refrained from more freely quoting from its contents because the book is one which, although primarily written for the public, no medical man can venture to leave unread. We feel that it has merely to be recommended, and, a commencement having been made, the book will speak for itself.

SMOKE ABATEMENT AND VENTILATION: "HE THAT INCREASETH KNOWLEDGE INCREASETH SORROW."—The Smoke Abatement Exhibition in our great city has brought to light some very sturdy optimists, who promise us a hygienic millennium if we will but abolish the open fire. Nothing bad enough can they say against it, and it is certainly never hinted that the old-fashioned grate and wide chimney ensure a ventilation which would otherwise be absent; for the fact is that, in spite of us, the air has been caused to circulate more or less freely through our dwellings by these means; and you can not put new fires into old houses—and live healthily. Therefore it behoves us, when all too cock-a-hoop over gas and electricity, to lay to heart, even though it bringeth much grief, the revolutionary wisdom that Dr. Leonard Hill delivered at the recent meeting of the British Association in Dundee[1]; and this remarkable address is all the more worthy of earnest attention in that the author shows us very clearly how we may yet escape from the shades of our prison house:—

"The ventilating and heating engineer hitherto has followed a great illusion in thinking that the main objects to be attained in our dwellings and places of business are chemical purity of air and a uniform draughtless summer temperature. . . . Many have thus become cave-dwellers, confined for most of their waking and sleeping hours in windless places, artificially lit, monotonously warmed. The sun is cut off by the shadow of tall buildings and by smoke—the sun, the energiser of the world, the giver of all things which bring joy to the heart of man, the fitting object of worship of our forefathers." Here we have approval of "Hygeiopolis'" efforts to abolish her black fog and smoky pall.

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[1] "An Address on the Influence of Muscular Exercise and Open Air on the Bodily Functions," *British Medical Journal*, 14th September, 1912, p. 599.

"Central heating, gas radiators, and other contrivances are now displacing the old open fire and chimney. This change greatly improves the economical consumption of coal and the light and cleanliness of the atmosphere. But in so far as it promotes monotonous, windless, warm atmospheres it is wholly against the health and vigour of the nation. The open fire and wide chimney ensure ventilation, the indrawing of cold outside air, streaky air—restless currents at different temperatures, which strike the sensory nerves in the skin and prevent monotony and weariness of spirit. By the old open fires we were heated with radiant heat. The air in the rooms was drawn in cool and varied in temperature. The radiator and hot-air system give us a deadly uniformly-heated air—the very conditions we find most insupportable on a close summer's day. . . .

"I have tried the plan of douching the body with cool air and found it very effectual, and can recommend the compressed air bath as the substitute for a bracing cold wind. . . . The electric fan has vastly improved the conditions of the worker in the tropics. I would suggest that each clerk should have a fan just as much as a lamp on his desk. It will pay the employer to supply fans. . . .

"I conclude, then, that all the efforts of the heating and ventilating engineer should be directed towards cooling the air in crowded places and cooling the bodies of the people by setting the air in motion by means of fans."

It might here be pointed out that the Nordrach system before it was "humanised" had proved not only the harmlessness but the beneficence of strong air currents. And yet only the other day—for prejudice dies hard—a gentleman, who had suffered from a severe cold after sitting in a draught in St. Andrew's Halls, instead of returning thanks for his healthful douche of "cold, outside, streaky air," actually felt it incumbent to write a grumbling letter to the papers. We shudder to think how much worse his cold might have been had he not had this stimulant to his defensive mechanisms!

"The increased percentage of carbonic acid and diminution of oxygen which has been found to exist in badly-ventilated churches, schools, theatres, barracks, is such that it can have no effect upon the incidence of respiratory disease and higher death-rate, which statistical evidence has shown to exist among persons living in crowded and unventilated rooms. The conditions of temperature, moisture, and windless atmosphere in such places primarily diminish the heat loss, and secondarily the heat production. . . . The whole metabolism of the body is thus run at a lower plane, and the nervous system and tone of the body is unstimulated by the monotonous, warm, and motionless air. . . .

"While too wet an atmosphere lessens evaporation from the respiratory mucous membrane, a hot, dry atmosphere—such as, in the absence of special precautions, occurs with the gas stove—dries up the mucous membrane. As the immunising powers depend on the passage of blood plasma into the tissue spaces, it is clear that a proper degree of moisture is important. The temperature, too, must have a great influence on the scavenger activity of the ciliated epithelium and leucocytes in the mucous membrane of the nose. . . . In the warm, moist atmosphere of a crowded place the infection from spray sneezed, coughed, or spoken out is enormous." . . . In the matter of "common colds" most lay persons, whether actively infecting or passively resisting, adopt a curious "if it be now 'tis not to come" sort of attitude. How much longer must we wait before the victims of nasal and allied catarrhs become sufficiently civilised to stay away from crowded resorts—for their neighbour's sake?

"We believe that infection is largely determined by—(1) the mass influence of the infecting agent; (2) the shallow breathing and diminished evaporation from, and flow of tissue lymph through, the respiratory tract in warm, moist, confined air. Colds are not caught by exposure to cold *per se*. . . . We have very great inherent powers of withstanding exposure to cold. . . .

"The essentials required of any good system of ventilation are, then—(1) movement, coolness, proper degree of relative moisture of the air; (2) reduction of the mass influence of pathogenic bacteria. The chemical purity of the air is of very minor importance, and will be adequately ensured by attendance to the essentials."

LITERARY NOTE.—Messrs. Baillière, Tindall & Cox announce a second edition of the English translation of Dieulafoy's *Text-Book of Medicine*. The whole work has been thoroughly revised, every chapter being subjected to the closest scrutiny in order to delete old matter, and much new material has been added. The fifteenth French edition of the *Manuel de Pathologie Interne* was first translated into English and published in June, 1910. Its success was phenomenal, and the publishers found it necessary to reprint no less than three times within a period of eleven months. With the publication of this second edition a total of 17,000 copies will have been issued. The same publishers announce a translation from the German of Professor Schmieden's well-known *Course of Operative Surgery*, translated and edited by Dr. Arthur Turnbull, Demonstrator of Anatomy in the University of Glasgow.

NEW PREPARATIONS, &c.

From Messrs. Burroughs Wellcome & Co.

"*Tabloid*" "*Epinine*" *Compound.*—These are small pellets meant to be sucked, so that the contained drugs may produce a local effect in the mouth and pharynx. They contain gr. $\frac{1}{1000}$ of "epinine," the new synthetic substance produced by this firm which is said to have an action like adrenine. In combination with it are heroin hydrochloride, ipecacuanha, benzoic acid, and oil of gaultheria. The pellets are pleasant to the taste, and the astringent effect is well marked.

REVIEWS.

The Principles and Practice of Medicine, designed for the Use of Practitioners and Students of Medicine. By SIR WILLIAM OSLER, Bart., M.D., F.R.S., F.R.C.P. Eight Edition, largely rewritten and thoroughly revised with the assistance of THOS. M'CRAE, M.D., F.R.C.P. New York and London: D. Appleton & Co. 1912.

To one who recalls the delight with which he first systematically studied Sir William Osler's treatise, and the charm which attached itself to his first personal discovery of its extraordinary merits, the appearance of each new edition is a matter of moment, and it is an obvious duty to secure a copy for the study table or bookshelf as early as possible. In reflecting on this treatise as one has known it in the past, one recognises the attractive literary style, the wide learning, the great industry, and the immense wealth of pathological and clinical experience which it displays as features which have contributed to secure for it its high position in medical literature. Systems and encyclopædias of medicine, in the production of which many writers co-operate, are unsatisfactory in one respect, namely, the diversity of merit of different articles; but in a work by a single author a more or less uniform standard is attained, and by its merits the book will succeed or fail. In Sir William Osler's *Principles and Practice of Medicine* we have merit of the highest order, and its success, which has been very great, is richly merited.

Twenty years have now elapsed since the first edition was published, and, as the author remarks, when the first edition is compared with the present, very little of the original work remains. The present edition has been to a considerable extent rewritten, and there has been a good deal of rearrangement. The infectious diseases have been grouped in a different way, and there are now included among them certain disorders such as acute poliomyelitis and acute tonsillitis, which, in the seventh edition, published three years ago, found their nosological position elsewhere. The rapid advance of medical science has necessitated the introduction of much new matter, and among the subjects for which new sections have been prepared are Leishmaniasis, the sporotrichoses, the colon infections, poliomyelitis, pellagra, disorders of metabolism, caisson disease, ochronosis, hæmochromatosis, the disorders of the organs of internal secretion, and the diseases of the blood. In the seventh edition diseases of the muscles had a section to themselves, whereas they are now included along with diseases of the joints and diseases of the bones in a section which is entitled diseases of the locomotor system.

No medical library can be regarded as complete or up to date which does not possess a copy of the latest edition of this work, and we now most heartily recommend it to the careful attention of every reader.

Deformities, including Diseases of the Bones and Joints: A Text-Book of Orthopædic Surgery. By A. H. TUBBY, M.S.Lond., F.R.C.S. Second Edition. Illustrated by 70 Plates and over 1,000 Figures. In Two Volumes. London: Macmillan & Co. 1912.

THIS is the second edition of the author's work on deformities, but, as the title indicates, the scope of the work has been greatly widened, and now includes a description of arthritic and osseous diseases. This edition, therefore, is practically a new work.

The various subjects with which it deals have been grouped on ætiological and pathological bases in preference to the regional classification adopted in the first edition. They are arranged in ten sections, of which those on congenital deformities, non-congenital deformities of the extremities, static deformities, and affections of muscles, tendons, bursæ, and fasciæ are included in the first volume.

In the introduction the author defines orthopædic surgery as comprising the surgery of deformities of the apparatus of locomotion in all three aspects—ætiological, prophylactic, and therapeutic. He then passes to a consideration of the ætiology—separating congenital from acquired deformities, and dwelling at some length on these two classes.

The subject-matter of the volume opens with the deformities of congenital origin, such as deformities of the trunk, torticollis, congenital dislocation, and club-foot.

Of the deformities of the trunk, details of congenital scoliosis are given. This subject is followed by a very good account of spina bifida and its treatment, in which the author draws attention to the poor late-results of operative treatment. There is next an interesting account of cervical ribs, followed by a detailed description of Sprengel's shoulder. This subject is freely illustrated.

Torticollis has a chapter to itself. The author is dogmatic on the subject of treatment. "Subcutaneous tenotomy . . . has been abandoned of every surgeon of experience. . . . Open division of the muscle is the only rational method." With this statement we do not agree. Then, when the treatment of posterior torticollis is considered, we are surprised not to find any mention of section of the posterior branches of the cervical nerves.

Congenital dislocation of the hip is very fully dealt with, not only as regards treatment, but also as regards ætiology and pathological anatomy. The author sums up in favour of manipulative procedure. There is next a lengthy consideration of talipes, in the treatment of which the author strongly and rightly insists on over-correction of the varus, *before* attending to the equinus, element.

In the section on non-congenital deformities of the extremities we find such conditions as trigger-finger, drop-finger, contraction of tendo Achillis, and acquired clubfoot. Various surgical procedures for the treatment of the last-named are given in detail, and the subject is fully illustrated. We are thus brought to static deformities, under which heading are grouped scoliosis, genu valgum, and various forms of foot-trouble.

In Volume II diseases, tuberculous and infective, of bones and joints are considered. There are also special sections on rickets, and arthritis and spondylitis deformans. A considerable amount of space is devoted to the subject of paralytic deformities, and there are several appendices dealing with various questions regarding tuberculosis.

The author is very concise in his remarks on the treatment of spinal abscess. He does not write for the junior student, but the surgeon reading his sentences (on p. 110) will at once perceive that, though concise, they really contain the kernel of the matter. Excision of the elbow for tuberculosis is given at greater length; but it is marked by the same commonsense and judgment. The author's views on the treatment of dactylitis are good, and we agree with him that hasty operation is not to be recommended.

The treatment of deformities arising from infantile paralysis is given at length. We would specially recommend to our readers the section on tendon-transplantation. The whole, however, of this part of the volume is very well done.

Among other good features of the volumes we would mention the numerous illustrations. These and the copious references to literature enhance the value of a work which we can whole-heartedly recommend.

Meningitis, Sinus Thrombosis, and Abscess of the Brain. By JOHN WYLLIE, M.D. London: H. K. Lewis. 1911.

THIS work has been written with the object of presenting in small compass the salient features of the diseases mentioned in the title, and, while lacking in detail at parts, it forms a useful working guide in the diagnosis of these somewhat difficult disorders. The various conditions are treated separately, and a special chapter is devoted to differential diagnosis.

The frequent mention of lumbar puncture for purposes of cyto-diagnosis and treatment has induced the author to append a note on the history and different uses of this procedure.

A chapter on diseases of the nasal accessory sinuses is also included, these being considered important causes of intracranial mischief.

The volume is dedicated by the author to the memory of his former teacher, the late Professor Sir Thomas M'Call Anderson.

Diseases of the Nose and Throat, comprising affections of the Trachea and Œsophagus. By STCLAIR THOMSON, M.D., F.R.C.P., F.R.C.S. London: Cassell & Co., Limited. 1911.

THE book opens with a short account of the embryology of the nose, pharynx, and larynx. The defensive arrangements of the upper air tract form the next section, special consideration being given to the bactericidal functions of the nose and the protective influence of Waldeyer's ring.

In Chapter II the methods of examination are described with lucidity, and in greater detail than in any text-book we remember. Sections on hypopharyngoscopy, direct laryngoscopy, bronchoscopy, and œsophagoscopy are also furnished:

we miss, however, descriptions of the normal appearances in the lower air passages and œsophagus.

In Chapter III explicit directions are given as to methods of treatment. The application of heat by means of fomentations, Leiter's tubes, &c., is recommended in acute affections of the accessory cavities; a better effect can be obtained, however, with Brünings' electric light head bath, a simple modification of which can be made with a large biscuit box and incandescent lamp. Local anæsthesia is fully discussed, including the suitable doses and modes of use of cocaine, the symptoms and treatment of the intoxication it may produce, and the substitutes for cocaine and their respective advantages.

The special conditions and dangers of operations are dealt with in the next chapter. This embraces sections on the prevention and arrest of local hæmorrhage, the protection of the lower air passages from the descent of blood, and the avoidance of shock, sepsis, and reflex sequelæ.

The diseases of the nose, which occupy the following two hundred pages, are prefaced by chapters on "Symptoms of nasal disease" and "Taking cold."

The author considers the *locus Kiesselbachii* as the most frequent site of the bleeding point in epistaxis. This, in our experience, is much oftener the main trunk of the artery of the septum which runs upwards from the floor close to and parallel with the junction of skin and mucous membrane, and which is well shown in Fig. 56. Under rhinitis sicca mention might have been made of the variety affecting the cartilaginous part of the septum, which has been specially described by Ribary under the name rhinitis sicca anterior.

As might be expected from the earliest exponent of the operation in this country, submucous resection of the septum is admirably described and illustrated.

Amongst the nasal neuroses, hay-fever and spasmodic rhinorrhœa—the latter being the term suggested by the author for the affection generally known as vasomotor rhinitis—are described together, and in a subsequent section nasal hydrorrhœa is dealt with. In our opinion hay-fever should be kept apart, and spasmodic or vasomotor sneezing, rhinorrhœa, and intumescence should be grouped together. The etiology of hay-fever, in a large measure, is understood, while that of the affection characterised by one or more of the three symptoms mentioned is in many cases obscure. Further, subjects of one disease do not often suffer from the other, and the treatment of the two conditions differs.

Cerebro-spinal rhinorrhœa, for the elucidation of which we are indebted to the author, is a distinct affection, and receives separate treatment at his hands. We are doubtful, however, as to the propriety of grouping it with the nasal neuroses.

About seventy pages are devoted to diseases of the accessory cavities. The author has apparently aimed at mentioning all possible or recorded causes, symptoms, complications, &c., but in doing so has lost sight of their relative importance, and some of the commoner conditions are disposed of too cursorily. Negative pressure by means of Sondermann's or Muck's apparatus as a diagnostic aid should have been mentioned. The descriptions of the operations on the antrum and frontal sinus are particularly good. The section on mucocele throws no new light on an obscure affection; we doubt that it can arise from cystic dilatation of a gland of the lining membrane.

Diseases of the naso-pharynx come under consideration in the following section. Of these, post-nasal growths naturally claim chief attention. The author refers to the fact that the beneficial results of operation are not always proportionate to the amount of growth removed, and suggests the possibility of this being due to an internal secretion. It has been shown, however, chiefly by Italian investigators, that this view is wrong, and that a more likely explanation is the occasional presence of a downward continuation of the hypophysis cerebri, which undergoes changes after removal of adenoids. For acute inflammation of the pharyngeal tonsil in infants, it is recommended to instil into the nose 5 per cent solution of menthol. This is much too strong; alarming symptoms in several instances, and at least one fatal accident, have followed the use of the drug under such conditions (see Leroux, *Ann. des mal. de l'oreille*, 1911).

It would be difficult to improve the chapters on the palatine tonsils. The objections to removal are disposed of, and the various modes of operating and of arresting the subsequent hæmorrhage are fully described and illustrated.

Vincent's angina receives due consideration. The author evidently holds that it is identical with acute ulcerative lacunar tonsillitis, although Moure, who first described the latter disease, regards them as two distinct affections. Membranous sore throat (non-diphtheritic) is disposed of in less than a page. The author, with advantage, might have described the typical appearances produced by the various micro-organisms. Reference might also have been made to the occasional destructive action of the pneumococcus and to angina sarcinica.

In the chapter on diseases of the lingual tonsil it is stated that removal of a thyroid tumour at the base of the tongue "can generally be effected through the mouth by a wire snare, morcellement, or a lingual guillotine." Such measures should not be advocated without a warning of the severe hæmorrhage that may follow.

The author does not differentiate collections of pus in the lateral pharyngeal space projecting into the pharynx from retro-pharyngeal abscess, nor does he point out that treatment should vary according as an abscess originates in, or behind, the retro-pharyngeal space.

An excellent section on the larynx extends to over one hundred pages. The chapter on neuroses contains a useful table, contrasting recurrent paralysis with ankylosis of the crico-arytenoid joint, and a valuable section detailing the laryngeal symptoms in intra-thoracic aneurysm. We miss references to Heymann's paper on toxic paralyses, Tapia's syndrome and paralysis following exposure to cold, usually termed "rheumatic."

Sir StClair Thomson has wisely included in his volume chapters on diseases of the trachea and œsophagus. In future editions we hope also to find short sections on the thyroid and thymus. The various conditions causing tracheal obstruction after tracheotomy are sometimes difficult to differentiate and deserve attention. Thost's monograph, published last year, may be consulted on this subject with advantage.

Treatment by intra-tracheal injections is referred to, but these as usually made have been proved by endoscopy to be almost useless. Ephraim's method of spraying the deep respiratory passages, on the other hand, commends itself as a rational therapeutic procedure.

The chapter on diseases of the œsophagus might be improved, especially as to arrangement. We notice a few inaccuracies and omissions, *e.g.*, the usual site of cicatricial strictures, the number of cases of pressure pouch reported, and the absence of mention of paralysis of the œsophagus and peptic ulcer.

The chapters on tuberculosis and syphilis are deserving of the highest praise. Very explicit directions are given for the treatment of the latter disease.

The nose and throat in acute specific fevers, and in some general affections, *e.g.*, gout, myxœdema, angio-neurotic œdema, herpes, and pemphigus are considered. Under herpes no reference is made to herpes zoster or chronic recurring herpes.

The methods of removing foreign bodies from the air and food-passages and of performing certain operations, *e.g.*, Rouge's, intubation, tracheotomy, and thyrotomy are excellently described and illustrated.

A collection of useful formulæ and a very full index bring the volume to a close.

In our opinion, Sir StClair Thomson's book is the best on the nose and throat in the English language. It is entitled to this position by reason of its reliability and comprehensiveness, and the keen judicial spirit that it manifests throughout. It appeals to all workers in the speciality: to beginners by the detailed and lucid descriptions, especially of technique, and to the experienced specialist, as an up-to-date *résumé* of the subject set forth in an attractive style. An extensive bibliography is supplied which will enable the reader to study more fully the matters dealt with. British laryngology owes a special debt of gratitude to the author, who, while displaying a thorough acquaintance with foreign literature, does not fail to accord his countrymen full recognition of their work.

For and Against Experiments on Animals. Evidence before the Royal Commission on Vivisection. By STEPHEN PAGET, F.R.C.S. With an Introduction by The Right Hon. THE EARL OF CROMER, O.M., G.C.M.G., G.C.B. London: H. K. Lewis. 1912.

ALL who are interested in scientific research owe a deep debt of gratitude to Mr. Stephen Paget for this compilation. A clear account of the chief results obtained during the past thirty years, by the help of experiments on animals, is given; and, so far as possible, this account has been stated in the very words of the men who did the work; while for ease of reference and comprehension these statements of fact have been grouped under the headings of physiology, medicine, surgery, the experimental study of drugs, tropical diseases, diseases of animals, and veterinary surgery. An equally fair hearing is accorded to those who are opposed to vivisection, and all that they can allege against the practice will be found here. The inception and constitution of the Research Defence Society are described, and its aims and objects touched upon.

The "Act to Amend the Law Relating to Cruelty to Animals" of 1876 is detailed. The Inspectors' Reports for 1910 are also given, and the volume concludes with a consideration of the final report of the Royal Commission on Vivisection, published 12th March, 1912.

Those who have neither the time nor the inclination to study the voluminous report of the Royal Commission, or the bulky minutes of evidence on which that report is based, will find this book most useful, since it will enable them, without undue labour and research, to form their own opinions. And, since it is practically impossible for anyone to escape from indebtedness to experiments on animals, it is most important that every ratepayer—who, in reality, vivisects by proxy—be thoroughly informed in these matters. Indeed, his education is not only most important—it is absolutely essential; for "it depends mainly on the view held by non-controversialists, representing the mass of public opinion in this country, whether the cause of scientific research is to stand or fall."

Lord Cromer contributes an introduction that is a model of temperance and conclusiveness.

Hypnosis and Suggestion: Their Nature, Action, Importance, and Position amongst Therapeutic Agents. By W. Hilger, M.D. Translated by R. W. Felkin, M.D., F.R.S.E. With an Introduction by Dr. van Renterghem; translated by A. Newbold. London: Rebman, Limited. 1912.

The introduction (to the Dutch edition) contains a historical survey of psycho-therapeutics for the last sixty years, and a commendatory note upon the author of the book. The remainder of the volume, which is a small one, comprising about 220 pages, is divided into four parts.

In Part I there is a short account of the introduction and use of hypnotism as a therapeutic agent, considerations regarding sleep and the nature of mental life during sleep, half sleep, how sleep approaches and how to induce it, the power and nature of suggestion, mental reflex action, and hypnotic methods. Part II deals with suggestion and will, and describes the significance of the supremacy of the idea of action in causing movement, and the influence of expectation, habit, and example in voluntary acts, as well as the influences of motive and of education in general and of free will in particular. In Part III are discussed the nature of sensation, memory pictures, the treatment of disturbance of sensation and of pain that is purely physical. Part IV is on disturbances of reflex activity and their treatment. In all parts there are numerous examples given from cases that have been reported, or that have occurred in the author's own experience.

The translation appears to be literal; there is a good deal of clumsiness of expression, and occasional misuse of a word.

Salvarsan in Syphilis and Allied Diseases. By J. E. R. M'DONAGH, F.R.C.S. London: Henry Frowde and Hodder & Stoughton. 1912.

THIS is what we have been waiting for—the practical man's book by one who, having had a wide experience of syphilis not only since but before the advent of salvarsan, is now able to speak with impartiality and authority as to what this drug does and does not do. The practitioner in search of advice as to the suitability of a particular case for treatment, or desirous of learning the minutiæ of procedure and how to vary the same, will find here detailed and helpful guidance. The book is concise—a quality but rarely met with nowadays—lucid, and eminently sane. Our first exorbitant expectations in respect to salvarsan have become considerably moderated during the course of two years, and we are here shown how, if we but avail ourselves of the experience accumulated and frankly recognise that the Ehrlich-Hata remedy is not for all, there need be no more of those regrettable accidents that have too frequently occurred in the past. Neuro-recurrences and fatal cases are given their proper perspective: the necessity for extreme caution in syphilis of the nervous system is emphasised: and the danger and comparative failure of treatment in congenital disease are candidly admitted. The use of this drug has been followed by quite a crop of so-called re-infections, which have been triumphantly pointed to by some of their recorders as indisputable proof of the thorough destruction of the original spirochaetes. Dr. M'Donagh, however, considers that "pseudo- or auto-reinfection explains this condition satisfactorily," and implies that extirpation of the parasite is less common than many would have us believe. It is recognised that syphilis in the primary and secondary stages can be quickly cured, though not necessarily by one or two injections: and it is demonstrated that the Wassermann tests must be much more searching if we are to avoid being satisfied with the insecurity of mere latency. "Provided the treatment is sufficiently pushed, there is no doubt that any case in the tertiary stage can be cured, and a permanent negative Wassermann reaction obtained," but many patients would probably be well advised to rest content with only relief from symptoms, since eradication of the disease is too tedious. Neo-salvarsan, according to M'Donagh, is easier to use and less toxic than salvarsan, and gives the impression that it is likewise more powerful. About four injections, he declares, are required in the primary stage, four to seven in the secondary, and from five to nine in the tertiary. Great stress is laid on the necessity for excision of the chancre, the importance of using freshly distilled water in the injections, and the advisability of also giving in all stages a thorough mercurial course. The enormous value of the "provocative injection" in exposing latency is also strongly insisted on. This is a genuine contribution to our knowledge, being a record of actual personal experience.

The Local Incidence of Cancer. By CHARLES E. GREEN, F.R.S.E. Edinburgh and London: William Green & Sons. 1912.

THE contents of this interesting pamphlet are in great part reproduced from Mr. Green's *The Cancer Problem*, which was noticed in these pages last year. Some new tables have been added, showing the proportion of deaths from cancer to deaths from all other causes in certain parts of England, and in these the author finds further corroboration of his assertion "that almost without exception houses in which cases of cancer have occurred have badly drawing chimneys, or are exposed to smoke from outside chimneys closely adjoining." These conditions are in their turn dependent on pronounced irregularity of levels due to natural configuration of the landscape, inequality in the height of houses, or both. Thus, according to Mr. Green, Glasgow owes its very low cancer mortality (2·98 per cent of all deaths) to the fact that not only has it a flat site, but its roof line is phenomenally level. Mr. Green, however, is not a medical man, and, unfortunately, cannot think like one, else he would never see in the induction of scrotal epithelioma in chimney-sweeps by coal soot any support for his contention that the imperfect removal from the atmosphere of the products of coal combustion is the cause *par excellence* of cancer. Further, no one with a medical outlook would have adduced Stepney, with its monotonously level roofs and a cancer mortality of 1·84 per cent, and the Strand district, with a chaotic irregularity in roof levels and a cancer mortality of 12·62 per cent, as a striking confirmation of this smoke theory. Stepney is the home of the working classes, composed largely of young people and their children. The Strand, on the other hand, is given over to business premises, where the only residents are caretakers, practically all of whom have passed the prime of life and are "without encumbrances." Since cancer is preeminently a disease of old age, at least of the period of retrogression, need we marvel that its mortality is abnormally high amid such a picked community?

Social Work in Hospitals: The Samaritan Fund. A paper read before the Incorporated Association of Hospital Officers on 15th March, 1912. By SYDNEY PHILLIPS, B.A.

As the very important link which connects the general curative work of a hospital with the various organisations outside which are concerned with the poor, the Samaritan Fund must necessarily require the closest attention of those concerned, and the present paper does well in bringing the subject prominently before the general public and all who have to deal with hospital administrative work.

The Pollution of Swimming Baths. By J. G. FORBES, M.D. London: J. & A. Churchill. 1912.

THIS pamphlet of fifteen pages is a reprint of a paper read by Dr. Forbes before the Medical Officers of Schools Association on 22nd February, 1912, along with the discussion which followed it.

The question of the pollution of public swimming baths is one which is well worthy of attention, and the almost invariable presence of bacillus coli, streptococcus fæcalis, and staphylococci, while only to be expected, is rather distressing when we consider the ever-present danger of typhoid infection by such a channel. The best remedy appears to be the employment of an electrolytic disinfecting fluid containing hypochlorite of magnesia. The discussion which followed the paper seems not to have been productive of anything of importance.

St. Bartholomew's Hospital Reports. Edited by H. MORLEY FLETCHER, M.D., and W. M'ADAM ECCLES, M.S., F.R.C.S. Vol. XLVII. London: Smith, Elder & Co., 1912.

THE present volume has a melancholy interest for its subscribers, for it opens with obituary notices of three of the most prominent members of the teaching staff of St. Bartholomew's Hospital—John Langton, Henry Power, and Samuel Gee—written by Messrs. D'Arcy Power, W. H. H. Jessop, and Dr. Norman Moore respectively. Admirable as an operating surgeon, Mr. Langton was even more distinguished as a teacher, at first of anatomy, and afterwards of surgery, and to him are due, besides lectures and articles on hernia, the later editions of Holden's *Manual of Dissections.* The literary activities of Henry Power covered a wider field, for besides his *Illustrations of some of the Principal Diseases of the Eye,* they include the sixth to ninth editions of Carpenter's *Human Physiology,* translations of Stricker's *Manual of Human and Comparative Histology,* and of Erb's *Diseases of the Peripheral Nerves* (in Ziemnsen's *Cyclopædia*), the New Sydenham Society's *Lexicon of Medical Terms* (with Leonard Sedgwick), an *Elements of Human Physiology,* and many papers, chiefly on ophthalmic subjects. But it is the name of Samuel Gee that is most familiar to those beyond the circle of the hospital school. His work on *Auscultation and Percussion* is a classic, and will long remain so; and it is worthily succeeded by his *Medical Lectures and Aphorisms.* The somewhat dry lucidity and conciseness of his style was based, it appears, upon his close study of seventeenth century authors; but we are not surprised to find from his biographer that it characterised his spoken lectures as well as his written words, and that it corresponded to a preciseness of habits which made him once refuse "to shake hands with a co-examiner who arrived late." It is just this quality of preciseness which is too often wanting in the bedside observation of the student, and which helped to make of Dr. Gee one of the best clinical teachers of his day.

The other papers include an article by Mr. J. A. Nixon on

"Abdominal Aneurysm in a Girl Aged Twenty," with an interesting series of 179 collected cases; an "Examination of the Chief Causes of Disease at Sea in the Era of the Tudors and Stuarts," by Mr. Alan Moore, which forms a fascinating excursus in the history of medicine, and illustrates the terrible effects of scurvy in these none so distant times: and an able "Analysis of a Series of Eighty-nine Cases of Intussusception," by Mr. M'Adam Eccles and Mr. F. F. Laidlaw. A few briefer but yet interesting papers complete the general part of the volume, which concludes with the customary series of hospital statistics.

Philadelphia General Hospital Reports. Volume VIII. Edited by DAVID RIESMAN, M.D. Philadelphia: Dunlap Printing Co. 1911.

THE large number of interesting studies of disease contained in the eighth issue of these *Reports* is evidence of the value of the clinical and pathological material at the disposal of the Philadelphia General Hospital, and of the scientific energy of its physicians and surgeons. It is impossible in a brief review to do more than select for notice a few of the more striking articles. Among these will be found a paper by Eshner on two cases of aneurysm of the thoracic aorta, treated by the Moore-Corradi method of wiring and passing a galvanic current through the wire. To the paper is added an analytical table of thirty-eight cases so treated. Beardsley also reports two cases treated by this method, and advocates its more frequent employment. Pott and Weisenburg give an account of a case of cerebral tumour, with convulsions, limited at first to the left arm, and followed by paralysis, and after some weeks by paralysis of the left leg, and Babinski's sign. The lesion was found to be in the upper third of the præcentral convolution, extending almost to the longitudinal fissure. Its situation, therefore, was higher than that at which the arm centre was till recently located. The leg fibres were probably implicated, subcortically, by pressure, and until they were affected Babinski's sign did not appear, a circumstance which explains the many instances of motor lesions in which the reflex has been absent. Spiller writes upon Friedreich's ataxia, and reports two cases of the disease associated with atrophy of the peripheral segments of the limbs. One of the cases is completed by a detailed account of the *post-mortem* findings, and the paper concludes with a good discussion of the pathology of the condition, and its relations to other familial affections. Under Weisenburg's name there stands a contribution to the subject of exophthalmos as a symptom of brain tumour. He states that it occurs in about 11 per cent of all cases (8 out of 75), that it is present only where there is great increase of intracranial pressure, and especially where there is interference with the flow of cerebro-spinal fluid, that it is due to pressure on the cavernous sinus, and that where it is unilateral the tumour will be found upon the same side. Kassner has an elaborate clinico-pathological study of primary carcinoma of the liver, with an account of nine cases. He believes that cirrhosis plays a prominent part in its etiology, and finds that it may originate either from the hepatic cells or from the biliary epithelium. Franklin Stahl contributes a case of osteitis deformans, with autopsy; and Deaver discusses with much detail the subject of hepatic drainage.

While these are the principal papers, the others are worthy of their company. It will be evident, even from these bald indications, that the volume is one which will well repay perusal.

Transactions of the American Surgical Association. Vol. XXIX. Edited by ARCHD. MACLAREN, M.D. Philadelphia: W. T. Dorman. 1911.

THIS volume of *Transactions* contains the papers read before the Association at the meeting held on 19th June, 1911, and two following days.

In his presidential address, Dr. Richard H. Harte (Philadelphia) refers to the visit paid to Great Britain by the Society of Clinical Surgery, and mentions specially the cliniques of Mr. Rutherford Morison (Newcastle), Mr. Robert Jones (Liverpool), and Mr. Stiles (Edinburgh). He speaks of the visit to Great Britain as memorable, interesting, and instructive, and he looks forward to the time when the Association will hold occasional meetings in this country, and British surgeons will pay return visits to America.

He then goes on to the subject of his address—"Some Phases in the Treatment of Fractures of the Long Bones." "There is," he says, "lack of interest and a feeling that the subject of fractures is so old that it will almost take care of itself . . . and it is only too apparent that the rising generation is lacking in much of the skill and resourcefulness which characterised the older surgeons in the diagnosis and treatment of these injuries." He discusses very pertinently the use of x-rays, and then refers to the "open" treatment. In accordance with their attitude towards this treatment he classifies surgeons as ultra-conservatives, extremists, and conservatives, the last-named operating "on properly-selected cases." From this group of surgeons we have the best results consistent with a low mortality. Dr. Harte concludes by advocating, and very rightly, the importance of more thorough instruction in the routine treatment of fractures in general, by men of large surgical experience. This will, by directing attention to the subject, enhance its importance.

As usual, the volume contains many papers of interest. Mr. Stiles has a long contribution on the subject of epispadias in the female. Papers on anæsthetics are supplied by Bevan, Moore, Gatch, and others. Halstead and Vaughan write on arteriovenous anastomosis in the treatment of gangrene of the extremities. W. J. Mayo and others contribute papers on abdominal surgery, and Cushing and Wyllys Andrews on brain surgery.

The volume is a tribute to the vitality of the Association.

Verhandlungen der Berliner Medizinischen Gesellschaft aus dem Gesellschaftsjahre 1911. Herausgegeben von dem Vorstande der Gesellschaft. Berlin: Druck von L. Schumacher. 1912.

In the *Transactions* of the Berlin Medical Society for 1911 is to be found a wealth of material of varied interest. The arrangement adopted, however, by which demonstrations of cases and reports of discussions occupy the first place, while the papers on which the discussions arose fill the latter half of the book, is hardly the most fortunate: but apart from this, the reader cannot fail to find profit in the variety of subjects handled by men the most eminent in German medicine. It were hopeless to attempt even an enumeration of all the papers, but attention may be particularly directed to those on the radium-therapy of gout and rheumatism (His); on a case of leprosy with positive Wassermann reaction, unsuccessfully treated with salvarsan (Isaac and Senator); on the experimental inoculation of syphilis in rabbits (Uhlenhuth and Mulzer); on the pathogeny and therapy of gall-stone disease (Mayer); on the theory and practice of tuberculin treatment (Wolff-Eisner); on the treatment of phthisis by the establishment of artificial pneumothorax (Klemperer); on the chemotherapy of malignant tumours in animals (Wassermann and Hausemann); on embryonic ganglioma of the sympathetic nervous system (Pick); on acute atony of the stomach (Schlesinger); and on scarification and decapsulation of the kidney (Zonder). It will be seen that for readers of German the latest issue of these *Transactions* contains almost an *embarras de richesses.*

The Practical Medicine Series. Volume I: General Medicine. Edited by FRANK BILLINGS, M.S., M.D., and J. H. SALISBURY, A.M., M.D. Chicago: The Year Book Publishers. 1912.

THIS series consists of ten volumes, which cover the entire field of medicine and surgery, but each volume is complete in itself, and is stated to contain the most recent information on the subject of which it treats. While primarily compiled for the general practitioner, the arrangement makes it suitable for those interested in special branches.

This, the first volume of this series, is not a text-book on general medicine, but will form a useful companion to such a book, collecting, as it does, from recent medical literature only what is new, be it with regard to etiology, symptomatology, or treatment, &c.

Recent advances in diseases of the heart and arteries receive lengthy notice (over 100 pages) with special reference to the newer methods of diagnosis of cardiac irregularity. The section on infectious diseases contains many interesting reviews of work done on the early diagnosis of pulmonary tuberculosis.

Other sections treat of disease of the lungs, the blood, the ductless glands, and the kidneys, and of miscellaneous disorders. Syphilis is not dealt with in this volume.

References are abundant throughout, and show that a wide field has been drawn upon for the material, which is all recent.

We can cordially recommend the book as giving in condensed form much up to date information on subjects which are attracting considerable attention at the present time.

ABSTRACTS FROM CURRENT MEDICAL LITERATURE.

EDITED BY ROY F. YOUNG, M.B., B.C.

MEDICINE.

Chvostek's Sign and Its Significance in Older Children. By Murray H. Bass, M.D. (*American Journal of the Medical Sciences*, July, 1912).—In this article the literature of the subject is reviewed, and the author gives the results of his examination of 495 children, ranging in ages up to 14 years, who applied for treatment at the Mount Sinai Hospital Dispensary. From these results he concludes that—

1. Chvostek's sign is present in 3·2 per cent of the poor applying for treatment.

2. The sign becomes more frequent the older the child, up to 19·6 per cent at 10 to 14 years of age.

3. The presence of so great a number of positive cases in America, where tetany is relatively an uncommon disease, is another argument in favour of considering Chvostek's sign in older children as distinct from any connection with tetany.

4. The positive Chvostek's sign in an older child, as a rule, means a neuropathic constitution. It seems especially common in children showing vasomotor irritability, and particularly in those suffering from orthostatic albuminuria.

5. Chvostek's sign is easily elicited, and should be more often used as an adjuvant in making the diagnosis of neuropathic children.

—ARCH. W. HARRINGTON.

Addison's Disease: Treatment by Transplantation of Suprarenal Gland. By D. Murray Morton, M.D. (*Australian Medical Journal*, 6th July, 1912).—This case, a woman of 35 years, presented the typical features of Addison's disease. Under treatment with suprarenal gland, tuberculin every ten days, and iron and arsenic, the patient improved, the blood-pressure rising from 95 to 110. In six weeks the patient was very well, and went to the country. She soon relapsed, however, and the treatment was repeated with no good effect. During a period in which she was very weak and low the operation was performed. On 17th March a male patient died of heart disease. The cadaver was taken immediately to the anæsthetising room adjoining the operating theatre, and the right suprarenal removed and placed in normal saline solution at 100 F. In the operating theatre cocaine and adrenalin solution was infiltrated over the lower ends of the patient's recti abdominis. A longitudinal incision was made on each side, and the sheaths of both right and left recti laid open. The suprarenal was bisected, and half of the gland was then buried in each rectus muscle. The sheaths of the recti were then closed with continuous catgut sutures, and the skin wounds with horse hair. The patient was very ill after the operation, but from 21st March improved rapidly. By 2nd April she was up, and was at the time of writing in comparatively good health. The pigmentation was distinctly less, and she had gained one stone in weight. The blood-pressure on 19th June was 104.—ARCH. W. HARRINGTON.

A Clinical Study of a Thousand Cases of Ulcer of the Stomach and Duodenum. By Julius Friedenwald, M.D. (*American Journal of the Medical Sciences*, August, 1912).—From a careful study of the thousand cases of ulcers of the stomach and duodenum the author arrives at the following conclusions:—

1. In patients suffering from various gastric disorders 7·8 per cent are affected with ulcers.

2. The largest proportion of ulcers occurs between the ages of 20 and 50.

3. More than twice as many males are affected as females.

4. Anæmia is present in a large proportion of the cases of ulcer.

5. A history of over-indulgence in food or drink can be obtained in almost half of the number of cases of ulcer.

6. The greatest proportion of cases of ulcer presents a normal acidity—46 per cent normal, 30 per cent hyperacidity, and 23 per cent a subacidity. Hyperacidity is proportionately more frequently observed in males, and subacidity in females. In recent ulcers, and especially those accompanied by recent hæmorrhage, the acidity is very high, while in chronic forms the acidity is low.

7. The average duration of symptoms is twelve years.

8. Pain occurs in 94 per cent of cases, and is most frequent in cases associated with a high acidity. Pain appears almost immediately after taking food (gastric ulcer), and at times long after (duodenal ulcer). In many instances there are one or more periods of intermission of pain as well as of the other symptoms; these periods vary from one to many months.

9. An epigastric tender area is present in at least 90 per cent of all cases, a dorsal tender area in 32 per cent.

10. Vomiting is a very prominent symptom, occurring in 67 per cent of cases.

11. Hæmatemesis is present in 22 per cent of cases, and melæna in 51 per cent. Occult blood is present in 81 per cent of cases.

12. Of the thousand cases of ulcer, 52 per cent are duodenal and 40 per cent gastric.

13. Of the duodenal ulcers, 48 per cent show normal acidity, 35 per cent hyperacidity, and 16 per cent a subacidity. Hyperacidity is more frequently observed in males, and subacidity in females.

14. Pain is present in 96·5 per cent of duodenal ulcers, and is most prominent in cases with hyperacidity.

15. Distinct periods of intermission from pain and other symptoms, varying from one to twelve months or more, are exceedingly common in this affection.

16. Epigastric tenderness is present in 89 per cent of the duodenal cases, a tender area to the right or left of the median line in 7 per cent.

17. Vomiting occurs in 21 per cent of duodenal cases, and is more frequent in those accompanied by high acidity.

18. Melæna occurs in 54 per cent of duodenal cases, and occult blood is found in the stools in 83 per cent.

19. Seventy-two per cent of cases of peptic ulcer treated by the Leube method are cured, 66 per cent by the Lenhartz method, 47 per cent by the ambulatory treatment administering nitrate of silver, 50 per cent with subnitrate of bismuth, and 40 per cent with olive oil. Of the cases treated by the Leube method, 74 per cent remained permanently well, while 77 per cent of those treated by the Lenhartz method also remained well.

20. Seventy-one per cent of the cases operated on are cured, 91 per cent remaining permanently well.

Ninety-one cases were operated on, and 7 died; 10 had perforations, and of these cases 4 died.—ARCH. W. HARRINGTON.

Paroxysmal Hæmoglobinuria. By Robert A. Cooke, M.D. (*American Journal of Medical Sciences*, August, 1912).—In this paper a typical case of paroxysmal hæmoglobinuria is reported. The case has been very thoroughly investigated, and the results of numerous experiments in relation to the hæmolysin are detailed. These experiments show that the serum contains a complex hæmolysin capable of dissolving the red blood corpuscles of the individual himself or other individuals by means of the cold-warm experiment. Positive results were obtained in all of the twelve examinations made at different times. Auto-antibody is absorbed from serum in the absence of complement, and on elevation of temperature is more or less completely, but slowly, dissociated. Complement is absorbed from active serum on exposure to corpuscles in the cold. It will join with antibody after the latter has united with corpuscles, but this union takes place solely under the influence of cold. Corpuscles sensitised with inactive serum show but slight hæmolysis on the addition of complement as a result of complementoid inhibition.

As a result of clinical observation, the Wassermann reaction, the luetin test (Noguchi), and the serological studies in metasyphilitic disease, it seems safe to say that syphilis is the most important, possibly the only etiological factor in paroxysmal hæmoglobinuria; but there are as yet no observations on the presence or absence of the hæmolysin after the disappearance of the Wassermann reaction as a result of antisyphilitic treatment.

The author's case had still a strongly positive Wassermann reaction four weeks after the third intravenous injection of salvarsan (0·5 gm., 0·4 gm., 0·6 gm.). He hopes to be able to report observations later after the Wassermann reaction has become negative.—ARCH. W. HARRINGTON.

SURGERY.

Bone Grafting. By Arthur E. Barker, F.R.C.S. (*The Practitioner*, August, 1912).—It appears probable that transplanted living bone may either be disintegrated, absorbed, and used for regeneration, or actually incorporated and vascularised, while alive, with the surrounding parts.

Repair of defects in bone is best accomplished by autoplastic, and, next best, by homoplastic operations. Grafts may be taken from fresh cadavera soon after death.

For a graft to be successful great care must be observed with regard to asepsis and arrest of oozing at seat of operation: the soft and hard parts in the area to be dealt with should have a normal blood-supply. The graft must be removed with the minimum of violence, and only at the last moment: if delay is unavoidable, it should be placed in Ringer's solution or normal saline. The periosteum should be preserved as carefully as possible. No antiseptics must be employed.

Bone grafts should be selected from the tibia, ulna, ribs, or metatarsals. In cases where a ready escape of osteoblasts is desired, it may perhaps be better that the periosteum should not completely surround the graft.

—ROY. F. YOUNG.

The Parathyroid Graft. By Louis Morel (*Archiv. Gen. de Chirurgie*, May, 1912). The author considers the following conditions to indicate parathyroid insufficiency:—Post-operative tetany; tetany associated with the maternal functions; infantile tetanies; certain conditions associated with neuro-muscular control, such as epilepsy and chorea; and certain conditions associated with irregularity in ossification, namely, rickets and osteomalacia.

Many sites have been tried for parathyroid grafting. Of these the author recommends the intra-peritoneal (on account of its simplicity), and the intra-splenic and intraosseous, as grafts "take" well there.

The conditions for successful grafting are the same as for other varieties of grafts (see "abstract" above).

The paper goes on to deal with grafts in animals as compared with human beings, and gives the full technique, with results of several cases.

—Roy F. Young.

GYNÆCOLOGY AND OBSTETRICS.

Spontaneous Torsion of the Normal Tube and Ovary.—Auvray contributes (*Arch. Mens. d'Obst. et de Gynéc.*, July, 1912) a memoir on this unusual condition. His patient was a girl of 14½ years, admitted to hospital suffering from a first attack of acute "appendicitis" of four days' duration. She had previously enjoyed good health. The diagnosis was not doubted, and the patient was treated with local applications of ice, &c., till the acuteness of the symptoms had passed off. Three weeks after the crisis the abdomen was opened to the outside of the rectus, and the appendix was found normal. The right tube was found distended at its outer end, twisted over the edge of the broad ligament, behind which it lay. The twist was of two turns, clockwise, and was chiefly near the uterine cornu. Histological examination showed no abnormality in the tube beyond what had been produced by hæmorrhage into the tissues and into the lumen. There was no trace of chorionic villi.

Auvray deals briefly with a series of similar twists found in hernial ovaries or tubes, with torsion of the healthy appendages during pregnancy and apart from that condition. Among the cases discussed are two Glasgow ones, published by Dr. L. M'Ilroy and Dr. Stark, and these are discussed at some length.

The mechanism is obscure; the congestion of menstruation has been suggested as a predisposing cause. Payr has suggested venous engorgement as a cause of the torsion, but what causes the venous engorgement? In M'Ilroy's case there was possible compression from prolapsus. Auvray brings forward as a speculative working hypothesis the natural spiral shape of the tube found in the fœtus, with insufficient growth of the mesosalpinx; but, as he himself points out, if that be the cause why is it not much more common?

—E. H. L. Oliphant.

Vacuum Extractor in Midwifery.—Kuntzsch, of Potsdam (*Zentr. f. Gynäkol.*, No. 27), describes an instrument which he invented to try whether it be possible to extract a fœtus by means of a suction tractor. He mentions four cases in which he used it with success, but does not profess to recommend it as an addition to the armamentarium. Kocks, of Bonn, and Heil, of Darmstadt (in the same journal, Nos. 33 and 37), point out that the method is not new, as Sir James Simpson described his air tractor in 1849, but soon laid it aside; while a controversy was proceeding as to priority by another inventor at that time, Siebold (1855) pointed out that Saeman had, fifty years previously, used a similar instrument. Such instruments seem to be of little value as tractors, and tend to tear away the scalp, so they have been relegated to the museums.—E. H. L. O.

Treatment of Depressed Fractures of the Skull in the New-Born.—Herff, of Basle, reports (*Zentr. f. Gynäkol.*, No. 39, 28th September, 1912) that he has been in the habit of reducing these fractures by pulling them out with a small corkscrew, such as is supplied with Eau de Cologne bottles. The screw can be inserted without previous incision of the skin, and is twisted till diminished resistance shows the point to be within the skull. Lately he has tried concentric manual compression, which he ascribes to Hoffmann, though it was previously described in these columns as practised by Munro Kerr.—E. H. L. O.

Roentgen Rays in the Treatment of Uterine Fibroids.—Haller (in *Arch. Mens. d'Obst. et de Gynéc.*, August, 1912) gives a general review of the present position of radiotherapy as applied to uterine fibroids. After a brief history from 1904, in which he shows that the method has been taken up by gynæcologists as well as by radiologists, he passes to the technique and says that each practitioner has one of his own. Some irradiate the tumour directly, some the ovaries as well, or chiefly. Schonberg filters the rays through chamois leather and tinfoil, Laquerriere and Guilleminot through 1 millimetre of aluminium fluoride glass, Bordier through sheets of aluminium of varying thickness according to the parts to be reached. Various means are used of pushing aside the bowel, of pushing up the tumour, or of pushing back the abdominal wall to approach the seat of operation more closely. The tumour, in the practice of most workers, is approached from several different sides in succession.

The clinical results are noted in relation to the hæmorrhage, which tends to diminish early; thus, several authors advise the treatment to be suspended in young women if there is not an early amelioration. In some cases, however, the first effect is a stimulant one, and serious hæmorrhage may result. The effect on the ovary is disputed, Bergonié and Speder asserting that the internal secretion is interrupted, while most maintain that this function is unimpaired. In any case, hæmostasis is often difficult to obtain in women under 40.

In some cases, at anyrate, it seems established that the tumour does diminish in size, though some authors assert that this is merely temporary.

Treatment is followed by marked improvement in the general condition in women when the hæmorrhage has ceased.

The application of the x-rays commonly produces various sensory disturbances, frequency of micturition, &c., and, in cases where the ovaries have been affected, flushings and similar phenomena associated with the menopause. The pubic hair often falls out and pigmentation is common, and, according to Haller, the radiologists do not always admit in their publications the number of severe cases of dermatitis they have produced.

The mechanism of the effect is unknown; probably the sterilising action on the ovary is the chief one, but possibly there is a direct action on the tumour itself. In cases where the treatment has failed to arrest the hæmorrhage, operative interference is rendered more difficult by the increased vascularity of the parts.

The age of the patient is an important factor in the prognosis; the nearer it is to the menopause the better the result likely to be attained. The variety of the tumour, too, must be considered, as interstitial fibroids do best, while subperitoneal pediculate tumours remain unaffected. Their situation makes them more or less accessible to the rays. Complicated cases (tubal disease, &c.) and rapidly growing or degenerating tumours are not to be irradiated; but some of these complications are difficult of diagnosis.

Surgeons looked to this treatment in cases of profound anæmia or of cardiac trouble, but radiologists, too, fear these conditions, and fatal cases have been recorded. It may be concluded that radiotherapy may be tried in patients near the menopause, but that the knife is still the only radical treatment for fibroids. The use of radium is not referred to.—E. H. L. O.

Treatment of Cervical Cancer in Midwifery Practice.—Levant writes in *Arch. Mens. d'Obst. et de Gynéc.*, September, 1912), on the modern methods of dealing with cancer of the cervix as it occurs in pregnancy, labour, or in the puerperium. Operative treatment, at least by hysterectomy, is a comparatively recent development. Formerly the custom was to allow pregnancy to proceed to term, or at least till the fœtus was viable; the modern tendency is to sacrifice the fœtus in operable cases where there is a reasonable hope of saving the mother.

Levant tries to lay down the indications for operability; they are much as in the non-pregnant state, but it must be kept constantly in mind that the softening of the parts modifies the diagnosis in several ways. This softening of the tissues round the cancer makes it appear more superficial than it really is; it allows the parts to be more movable, so that restriction of movement must be considered as equivalent to immobility in the non-pregnant state, and it permits of palpation of extensions of the disease more clearly.

The general trend of opinion seems to be in the direction of very early operation for several reasons. Presumably the disease is not far advanced at the time of conception or this could not have taken place, and the pregnancy causes the disease to advance with alarming rapidity. In the first five months of pregnancy, accordingly, the indication is to operate at once, and the prognosis is fairly good, the mortality from operation being 6·6 per cent, and nearly 30 per cent of the cases are reported as being well two years and upwards after the operation.

In the ninth month of pregnancy the indication is still to operate as early as possible. Expectant treatment gives deplorable results as regards the child. Cæsarean section gives the child the best chance, and enables the operator to estimate the possibilities of a total hysterectomy.

In the sixth and seventh months the problem is more complicated, and the authors are divided in their solution of it. Some wait for the child to be viable. Levant concludes for immediate operation where this is reasonably hopeful, but waits in the eighth month till the ninth.

In labour, operation should be performed at once, and it is remarkable that even with the fœtus dead the authors cited have not performed embryotomy, but have performed Cæsarean section.

After labour the immediate mortality seems to run up the longer the operation is delayed. Thus, in 8 cases immediately after delivery the mortality was nil; in 11 cases from the second to the fifteenth day it was 9 per cent, and after the fifteenth day in 17 cases it was 11 per cent. These figures, of course, are small, but the increase in the death-rate is remarkable.

Levant discusses the various methods, and prefers Wertheim's operation, which is easier than in the normal condition on account of the laxity of the parts and the consequent facility of separating the layers of the broad ligament to expose the ureters. At the present time the operation is less extensive than it was at first. Since 1907, vaginal hysterectomy of the gravid uterus has fallen into abeyance.

The author gives a considerable number of statistics of the results of various operators by different methods.—E. H. L. O.

Premature Separation of the Normally Inserted Placenta.

Berggren, of Lund, (in *Arch. Mens. d'Obst. et de Gynec.*, August, 1912), gives details of a personal observation and reviews the recent literature. The patient was a iv-para, and at her last previous confinement had suffered from slight but continuous hæmorrhage, which continued from ten hours before the onset of labour until delivery. On the present occasion she was enfeebled, and twice during pregnancy had hematemesis. Shortly after the onset of labour she became aware that there was a continuous flow of blood, gradually becoming more profuse, up to about 1 litre in all. On admission to hospital her state was evidently precarious, her pulse was about 120, and her exsanguine condition was far beyond what could be accounted for by the visible hæmorrhage. The urine was highly albuminous and contained numerous hyaline tube casts. The uterus was in a state of tonic contraction, which gave it a wooden hardness. The upper right edge of the organ bulged, and was also painful and tender. On vaginal examination the os was found to admit two fingers, the membranes bulged, and there was no placenta prævia. As the fœtal heart was clearly audible Cæsarean section was performed. At the operation some blood-stained serum was found in the peritoneal cavity; the surface of the uterus, especially posteriorly, was stained violet in patches which were subserous, and seemed due to ecchymoses in the muscular wall. In view of tubercular lesions in the lungs, the patient was sterilised by ablation of the tubes. A portion of one of the violet patches was excised for examination.

The child was born alive, but died next day from a developmental deficiency of the interauricular septum ; the patient herself made a good recovery.

The muscular wall of the uterus was found to be torn up by the hæmorrhage, but did not show any trace of inflammatory or other lesion. Some of the blood clot on the placental surface was old and appeared to have compressed the tissue of that organ which was quite thin in places.

Berggren, in reviewing the published cases, divides these, according to the lesions found, into inflammatory, degenerative, and hæmorrhagic, and most of the cases fall into the last category. Many of these were associated with albuminuria, and the concomitance of eclampsia is too frequent to be fortuitous, though it must be borne in mind that eclampsia is most frequent in primiparas, and this hæmorrhage in multiparas.

As to treatment, each case must be treated on its merits ; the tendency in severe cases is to have recourse to Cæsarean section, going on to ablation of the uterus if the hæmorrhage continues after the removal of the fœtus.

—E. H. L. O.

MATERIA MEDICA AND THERAPEUTICS.

Results of Antityphoid Vaccination in the U.S. Army in 1911, and its Suitability for Use in Civil Communities. By Fred F. Russell, M.D., Major, Medical Corps, U.S. Army (*Journal of the American Medical Association*, 4th May, 1912).—The interest of this paper is in the account it gives of the experience obtained of vaccination against enteric fever in the U.S. Army from the date of its introduction in 1908 up to the present time, and especially of the results of the compulsory vaccination of the troops forming the Manœuvre Division at San Antonio, Texas, between 10th March and 10th July, 1911. The writer's conclusions are :—

1. Antityphoid vaccination in healthy persons is a harmless procedure.
2. It confers almost absolute immunity against infection.
3. It is the principal cause of the immunity of the troops against typhoid in the Texas Manœuvres.
4. The duration of the immunity is not yet determined, but is assuredly two and one-half years, and probably longer.
5. Only in exceptional instances does its administration cause an appreciable degree of personal discomfort.
6. It apparently protects against the chronic bacillus carrier, and is at present the only known means by which a person can be protected against typhoid under all conditions.
7. All persons whose profession or duty involves contact with the sick should be immunised.
8. The general vaccination of an entire community is feasible, and could be done without interfering with general sanitary improvements, and should be urged wherever the typhoid-rate is high.—R. Speirs Fullarton.

Notes on the Treatment of Ankylostoma Anæmia (Unicinariasis, Hookworm Disease) with Thymol. By Camillo Bozzolo, M.D., Turin (*Journal of the American Medical Association*, 8th June, 1912).—Dr. Bozzolo refers to his adoption of this remedy, for the first time, in 1879, for the treatment of brickmakers' anæmia, and to the benefits which have followed its universal employment for over thirty years. He regards as exaggerated the fears entertained by some physicians of the poisonous after-effects of large doses, and states that during the time in which workers on the cutting of the St. Gothard tunnel, suffering from ankylostoma anaemia, flocked to Turin, 12 gm. (185 grains) were given in twelve hours, 2 gm. (over 30 grains) every two hours, always well enveloped in capsules, and no serious disturbance was ever noted either by him or his colleague, Dr. Medoni, who increased the dose to 15 gm. In cases of weak persons, however, who have been suffering for a long time, and when treatment cannot be carried out under direct supervision, smaller doses may be advisable. The method of administration originally suggested by Dr. Bozzolo was to give at two-hourly intervals two doses of 6 gm. each of thymol, in capsules (to prevent burning sensations in mouth and throat). After each pill a small glassful of strong wine or some alcoholic mixture was given in order to facilitate solution of part of the drug. No patient so treated showed any symptom of poisoning beyond "giddiness, tipsiness, and sleepiness." Dr. Bozzolo considers the suggestion of Guiart, to use the thymol in a fine powder, worthy of attention, and better still, the method adopted by the Porto Rico Anaemia Commission, of thoroughly mixing the powdered thymol with powdered sugar. Prepared in this way the small grains of powder can more easily come into contact with the worms, even if hidden and protected by the folds of duodenal mucosa.

—R. Speirs Fullarton.

Hexamethylenamin in the Treatment of Systemic Infections, with a Special Emphasis upon its Use as a Prophylactic. By S. J. Crowe, M.D. (*Bulletin of the Johns Hopkins Hospital*, September, 1912).—The object of this publication is to call attention to the fact that hexamethylenamin (sold under various proprietary names—urotropin, helmitol, cystogen, formin, uratone, &c.) is of value not only as a therapeutic, but specially as a prophylactic measure, in a great variety of maladies. Among these the most important are—infections of the genito-urinary tract and typhoid bacilluria; infections of the bile-ducts and gall-bladder; infections of the cerebro-spinal system, poliomyelitis, epidemic meningitis, meningeal infections following injuries or infective processes elsewhere in the body; infections of the respiratory tract, including those of the para-nasal sinuses and ears, acute rhinitis, acute tonsillitis, and some forms of bronchitis.

Investigations made on clinical cases in which it was possible, owing to the presence of a post-operative biliary fistula, to make cultures and obtain specimens of bile directly from the interior of the gall-bladder, disclosed the following facts:—

1. Hexamethylenamin, given either by mouth or by rectum, makes its appearance in the bile and in the urine almost simultaneously.

2. Provided large doses are given (at least 75 grains a day), the drug appears in the gall-bladder in a concentration which suffices to render the bile an unsuitable medium for the growth of bacteria.

In some of the cases, in which the infecting organism was B. typhosus, it was possible, by the simple administration of this drug, to render the interior of the gall-bladder sterile—at least so long as active therapy was continued.

The author's investigations during the past four years have been directed chiefly toward the experimental and clinical study of the value of hexamethylenamin in threatened or actual cerebro-spinal infections, and details are given of the numbers of such cases treated with the remedy in the Johns Hopkins Hospital, and of the results of treatment.

From the experimental observations the following conclusions are drawn:—

1. Hexamethylenamin, given either by mouth or by rectum, invariably appears in the cerebro-spinal fluid, both in man and in animals, reaching a maximum concentration in from thirty minutes to one hour after administration. This drug appears to be the only substance known which is excreted into the cerebro-spinal fluid in amounts sufficient to be of the slightest therapeutic value.

2. After doses of hexamethylenamin, within therapeutic limits, a sufficient amount of the drug appears in the cerebro-spinal fluid to have a marked inhibiting effect on the growth of organisms (streptococcus) inoculated into this fluid after its removal from the body.

3. Following a subdural inoculation of dogs and rabbits with a virulent culture of streptococcus, 60 to 80 grains of hexamethylenamin a day, given under conditions which ensure absorption, will markedly defer, and in some cases prevent, the onset of a fatal meningitis.

The clinical experiences are based on the fact that since 1908 it has been a routine method in the Johns Hopkins Hospital to administer this drug to all cases in which a meningeal infection is a possible or threatened complication. An extensive series of such cases has been studied, including cases of compound fracture of the skull, tumours of the hypophysis with neighbourhood symptoms necessitating operative procedure through the nose, post-operative cerebro-spinal fistulæ, infections of the ear and para-nasal sinuses, and acute poliomyelitis; and the results seem to definitely establish the therapeutic and prophylactic value of the drug.

There have been very few instances in which toxic symptoms have resulted from its use, though from 200 to 300 grains have been given daily for four or five days; even in children, doses of 100 or 125 grains a day have produced no irritative symptoms, so long as the drug was sufficiently diluted with water.

If the patient is very ill, the drug is administered per rectum, from 50 to 100 grains being dissolved in a litre of salt solution, and allowed to flow slowly into the bowel, a drop at a time. If the patient is able to swallow, from 2 to 3 grains are added to every ounce of liquid, since the drug is practically tasteless, and it is often possible in this way to give from 60 to 100 grains a day without the patient's knowledge, and without producing gastric or renal irritation.—R. Speirs Fullarton.

The Treatment of Pulmonary Tuberculosis by Compression of the Lung. By Mary E. Lapman, M.D., Highlands, N.C. (*Journal of the American Medical Association*, 14th September, 1912).—This paper gives some account of the treatment of pulmonary tuberculosis by the injection of nitrogen into the pleural cavity, either by hypodermic needle or by cannula after incision; the aim being to compress the lung into the smallest possible mass, and to keep it compressed "until it heals, when the nitrogen is absorbed, and the lung re-expands and resumes its functions." The writer states that "over 600 cases have already been reported, with about 40 per cent of recoveries. All of these were advanced and hopeless cases, and the causes of failure were not so much in the method itself as in the inability to use it. The pleural surfaces may be so adherent that a pleural cavity cannot be produced. Pleural bands may hold the lung out so that it cannot be compressed, and the pleural vessels may be so engorged and multiplied as to resemble a malignant neoplasm."

In the Highland Camp Sanatorium they have treated by this method 31 cases. "Of these, 6 patients are dead, and 3 have not been under treatment long enough to report; 10 are still uncertain; and in 2 cases the lung has expanded, resumed its function, and there have been normal breath-sounds and resonance for over a year."—R. Speirs Fullarton.

Books, Pamphlets, &c., Received.

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Guide to Midwifery, by David Berry Hart, M.D., F.R.C.P.E. With 4 illustrations in colour and 268 diagrams. London: Rebman, Limited. 1912. (25s. net.)

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Saint Thomas's Hospital Reports. New series, edited by Dr. J. J. Perkins and Mr. C. A. Ballance. Vol. XXXIX. London: J. & A. Churchill. 1912.

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A Manual of Clinical Chemistry, Microscopy, and Bacteriology, by Dr. M. Klopstock and Dr. A. Kowarsky, of Berlin. Illustrated with 43 textual figures and 16 coloured plates. London: Rebman, Limited. 1912. (12s. 6d. net.)

Small-Pox and its Diffusion, by Alexander Collie, M.D.Aberd. Bristol: John Wright & Sons, Limited. 1912. (2s. net.)

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Prescriber's Formulary and Index of Pharmacy, by Thomas Hugh Beddoes, M.B., B.C.Camb., F.R.C.S.Eng. London: Baillière, Tindall & Cox. 1912. (2s. 6d. net.)

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The Course of Operative Surgery: A Handbook for Practitioners and Students, by Professor Dr. Victor Schmieden. Second enlarged edition. With a Foreword by Professor Dr. A. Bier. Translated and edited by Arthur Turnbull, M.B.Glasg., M.A., B.Sc. London: Baillière, Tindall & Cox. 1912. (12s. 6d. net.)

GLASGOW.—METEOROLOGICAL AND VITAL STATISTICS FOR THE FOUR WEEKS ENDED 19TH OCTOBER, 1912.

	WEEK ENDING			
	Sept. 28.	Oct. 5.	Oct. 12.	Oct. 19.
Mean temperature,	46·7°	46·4°	51·2°	50·1°
Mean range of temperature between highest and lowest,	17·1°	11·6°	16·7°	11·4°
Number of days on which rain fell,	0	2	0	7
Amount of rainfall, ins.	0·00	0·22	0·00	1·41
Deaths registered,	201	208	231	233
Death-rates,	13·3	13·8	15·3	15·4
Zymotic death-rates,	0·3	0·8	0·4	0·6
Pulmonary death-rates,	2·6	2·6	3·0	3·2
DEATHS—				
Under 1 year,	33	31	51	52
60 years and upwards,	47	44	55	50
DEATHS FROM—				
Small-pox,	...	...	...	...
Measles,	1	...	...	1
Scarlet fever,	...	4	...	...
Diphtheria,	2	6	3	6
Whooping-cough,	...	1	3	1
Enteric fever,	1	...	...	...
Cerebro-spinal fever,	1	...	...	1
Diarrhœa (under 2 years of age),	7	4	10	4
Bronchitis, pneumonia, and pleurisy,	23	18	34	35
CASES REPORTED—				
Small-pox,	...	...	...	...
Cerebro-spinal meningitis,	3	...	1	1
Diphtheria and membranous croup,	52	30	39	52
Erysipelas,	17	25	33	23
Scarlet fever,	99	92	95	110
Typhus fever,	...	...	...	...
Enteric fever,	3	1	...	1
Phthisis,	39	31	48	35
Puerperal fever,	2	3	...	4
Measles,*	18	18	38	76

* Measles not notifiable.

SANITARY CHAMBERS,
GLASGOW, *29th October* 1912.

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ORIGINAL ARTICLES.

FURTHER CONTRIBUTIONS TO OUR KNOWLEDGE OF THE PERNICIOUS VOMITING OF PREGNANCY.[1]

By J. WHITRIDGE WILLIAMS, M.D.,

Professor of Obstetrics, Johns Hopkins University, Baltimore;
Honorary President of the Glasgow Obstetrical and
Gynæcological Society.

Before beginning my address, I wish to express to the members of the Glasgow Obstetrical and Gynæcological Society my very great appreciation of the honour they have conferred upon me in choosing me as their Honorary President. In any circumstances, such a manifestation of appreciation of my slight services in our chosen field of work would be most flattering, but it becomes particularly so when I recall the names and achievements of those who have preceded me in office. Furthermore, the thought of coming to Scotland—the home of British obstetrics—in an official capacity adds still further to the honour, as it at once brings to mind the names of William Hunter, Smellie, and Sir James Y. Simpson, as well as of others who are still living, and inevitably makes one feel how trifling are one's own achievements when compared with those of the great masters.

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[1] Read in abstract before the Glasgow Obstetrical and Gynæcological Society, 28th June, 1912.

With all due appreciation of my own limitations, I feel that I can perhaps interest the members of the Society by bringing to their attention the results of my investigations concerning the nature and treatment of pernicious vomiting of pregnancy. Some of you may recollect my monograph upon the subject which appeared in 1905, in which I reviewed the literature and reported my observations concerning certain pathological and metabolic changes occurring in the disease. The following year I still further elaborated my views in an article entitled "Toxæmic Vomiting of Pregnancy."

Since that time I have written nothing further upon the subject, but I have had an opportunity to observe a considerable number of cases, which I have studied as thoroughly as possible. This increased experience has served to confirm in great part my original views, but at the same time it has forced me to recognise that some of my conclusions were too far-reaching, and consequently are in need of revision. It is my purpose upon this occasion to discuss with you, frankly and informally, various aspects of the subject, and then to indicate to what extent my original conclusions must be modified.

In my original articles I held that the evidence then available justified the classification of cases of pernicious vomiting into three groups—reflex, neurotic, and toxæmic. I made no contribution to our knowledge of the first two varieties, but I pointed out that the toxæmic form should be sharply differentiated from others, as it is associated with profound degenerative lesions in the liver and kidneys, as well as with striking changes in metabolism, which are characterised by a marked distortion in the nitrogenous partition, more particularly manifested by an increase in the proportion of the total nitrogen excreted as ammonia. This so-called ammonia co-efficient, which in normal pregnant women varies between 3 and 5 per cent, may become markedly increased, rising in one of my cases to as high as 48 per cent. After discussing the various factors which might be concerned in bringing about such changes, I was obliged to confess my ignorance concerning the mode of production of the high ammonia co-efficient, but I held that it indicated the existence of a toxæmia, and concluded that when it exceeded 10 or 15 per cent it should be regarded as an indication for the prompt termination of pregnancy.

Accordingly, I recommended the utilisation of the ammonia co-efficient as a means of diagnosis, and held, if it were markedly elevated in a given case of pernicious vomiting, that one had to deal with the toxæmic type; while if it were normal the diagnosis lay between the reflex and neurotic variety; the differentiation between the latter being made by the presence or absence of palpable abnormalities of the generative tract. The diagnosis having been established, treatment followed as a matter of course. In the reflex variety, relief followed the correction or removal of the abnormality of the internal genitalia; in the neurotic variety cure should be promptly effected by suggestive treatment, rest in bed, and forced feeding; while in the toxæmic variety prompt interruption of pregnancy was essential in order to check the underlying toxæmia, and, if possible, to give Nature a chance to bring about repair of the organic lesions.

The immediate result of these teachings was a marked reduction in the number of cases requiring the induction of abortion; the discovery that most cases of serious vomiting were neurotic in origin and therefore amenable to suggestive treatment; and, finally, the recognition that the reflex variety of vomiting occurred but rarely, and even when cure followed the correction or removal of the condition which was supposed to give rise to the reflex irritation, that one remained uncertain whether it was the result of the treatment employed or was merely due to its suggestive influence.

In my original article I was not dogmatic concerning the significance of a high ammonia co-efficient, but, in justice to myself, I feel that I should direct your attention to what I said in that connection in 1905, more particularly because certain of my critics appear to have assumed that I held that the only explanation for such a finding was the existence of a toxæmia complicating the early months of pregnancy.

In view of the fact that in fatal cases the liver presents evidences of extensive fatty degeneration, and occasionally of central necrosis of the individual lobules, quite as extensive as in advanced stages of acute yellow atrophy, I suggested that the high ammonia co-efficient might be due to the inability of the diseased organ to effect complete oxidation of the nitrogenous material brought to it; but at the same time I was well aware that such an explanation was more than problematical, as we possessed abundant evidence to prove that the preservation of relatively minute quantities of liver tissue may suffice for the ordinary purposes of metabolism. I also pointed out that similar variations in metabolism had been observed in acute yellow atrophy of the liver, as well as in cases of poisoning by phosphorus. Furthermore, I directed attention to the high ammonia co-efficient observed in diabetes and other varieties of acidosis, and also stated that it was observed in certain forms of gastro-enteritis in children, as well as in adults suffering from starvation, and, finally, that it might even follow radical changes in the diet of perfectly normal individuals.

After adducing these facts, I cautiously concluded as follows:—"This being the case, I feel at present that I must remain content with demonstrating that in certain cases of toxæmic vomiting of pregnancy there is a marked disturbance in metabolism, which is manifested by a great increase in the ammonia co-efficient, and that it must be left to future investigations to determine whether the change is directly due to the inability of the diseased liver to effect complete oxidation, or whether it is a manifestation of an acid intoxication, or of some other condition. Moreover, we are absolutely ignorant concerning the nature of the toxic material concerned, and whether it is derived from the mother or fœtus."

Since expressing these views a very considerable literature has accumulated upon the subject, while my own experience has been increased by the careful study of nearly forty patients suffering from serious vomiting of pregnancy. I shall now proceed to consider the criticism to which my views have been subjected, and to indicate to what extent they are justified.

My conclusions have been confirmed in general by Winter, Hofbauer, Czyzewicz, Edgar, Cragin, and others; but at the same time they have been subjected to more or less criticism by Leathes, Longridge, Rand and Underhill, Whipple and Sperry, and M'Donald. For the present it is unnecessary to consider critically the views of the former group of writers; but on account of the high standing and recognised merit of those in the latter group, it is essential to give respectful consideration to their views, which I am quite prepared to admit are in part justified, and, together with my own more extended experience, have caused me to modify my own views materially.

Leathes, after directing attention to the fact that a high ammonia co-efficient may be due to various factors, and does not necessarily indicate impairment of the hepatic function, stated that before such a finding could be considered to possess any great diagnostic or prognostic significance in a given case of pernicious vomiting, it would be necessary to take various considerations into account, particularly the low nitrogen content of the absorbed food, the imperfect nutrition due to incessant vomiting, and the loss of alkali in the vomit, aggravated, possibly, by the requirements of the fœtus. Furthermore, he was inclined to predict that if in the future any prognostic significance could be attached to manifestations of perverted metabolism, it would probably be derived rather from variations in the ratio of the so-called "undetermined nitrogen" than in the ammonia co-efficient.

Longridge, in an excellent article which was based upon theoretical considerations rather than upon personal experience, was inclined to believe that the high ammonia co-efficient accompanying pernicious vomiting should be regarded as a manifestation of an acid intoxication incident to inanition rather than as indicating the existence of a toxæmia. In any event, he held that the limit (10 to 15 per cent) which I had set as indicating the necessity for the termination of pregnancy was too low, as similar figures may be noted in normal individuals after a radical change in diet. At the same time, he stated that the entire question was still *sub judice*, and that it would be rash to express a definite opinion until additional evidence and experience became available.

Rand and Underhill, in a very painstaking article, which was based upon the accurate metabolic study of four cases of serious vomiting of pregnancy, one of which presented an ammonia co-efficient of 47 per cent, expressed the belief that the urinary changes are identical with those observed in starvation, and are not necessarily indicative of the existence of a toxæmic condition. Furthermore, they hold, in those cases in which inanition is a significant factor, that the exhibition of carbohydrates is of greater importance than proteid material. It should, however, be noted that in one of their cases induction of abortion was necessary in order to save the life of the patient; while in another instance Rand and Underhill did not consider that the patient was suffering from pernicious vomiting, but rather believed that the symptoms were feigned in the hopes of getting rid of an undesired pregnancy.

Following the work of Howland, Whipple and Sperry made an extensive experimental study of the lesions associated with delayed chloroform poisoning, and found that they could produce at will extensive central necrosis of the liver lobules, identical with that observed in acute yellow atrophy of the liver, as well as many of the reported cases of vomiting.

Consequently, they felt justified in inquiring whether it was not possible that the hepatic and renal changes observed in patients dying after abortion induced for the relief of vomiting of pregnancy might have resulted from poisoning by the chloroform used for anæsthesia, rather than from a supposed specific toxæmia.

Finally, M'Donald, in a letter to the editor of the *Journal of the American Medical Association* objecting to an editorial in which the work of Ewing and myself had been favourably mentioned, stated that the differential study of the urinary nitrogen was of no value either from a diagnostic, prognostic, or therapeutic point of view, as he held that "such conclusions are unwarranted by facts and unsupported by scientific men."

Although the tendency of most recent writers has been to assume that the underlying factor in the production of serious vomiting is a toxæmia, which is in some way directly connected with the existence of pregnancy, a certain number have advanced other views, which should at least receive cursory mention.

Thus, Chirié et Perrot incline to the belief that the ultimate factor consists in a perverted secretion of the corpus luteum. The evidence adduced in favour of this supposition is not conclusive, and to my mind the contribution is of interest only in that it renews the suggestions of Holladay, Pierrehughes, and Turenne which were mentioned in my monograph.

Following the suggestion of Mayer that certain dermatoses of pregnancy may be relieved by the intravenous injection of small quantities of serum obtained from normal pregnant women, Fieux and Dantin employed a similar procedure in a case of serious vomiting. As the patient began to improve immediately after the administration of the serum, they were inclined to attribute the cure to its use, and tentatively suggested that the supposed toxæmia may be due to the lack of some substance which should normally be present in the serum. Their observation is of very considerable interest, but as similar results did not follow the adoption of the procedure in two of my patients, I am inclined to be somewhat sceptical of their interpretation, and would suggest that the improvement in the condition of their patient may have been due to suggestion.

Lequeux considers that all cases of serious vomiting are associated with impaired hepatic function, and holds that an approximate idea of its extent may be gained by determining the glycolytic power of the liver. For this purpose he administers 1 gram. of sugar for each kilo. of body weight of the patient, and if glycosuria ensues he concludes that it affords evidence of such serious insufficiency of the liver as to justify the induction of abortion. The proposal is very interesting, but, unfortunately, my experience would indicate that it is not applicable to the type of cases concerning which information is most desired, as it is apparent that a patient who is vomiting everything she ingests will scarcely be able to retain a solution containing the requisite amount of sugar.

Finally, it may be noted that Rebaudi and Siegmund have reported the recovery of apparently desperate cases following the administration of thyroid extract and adrenalin respectively.

Reverting to my own views upon the subject, I frankly admit that some of my original conclusions are in need of revision.

In the first place, I am inclined to believe that all cases of vomiting of pregnancy, including the ordinary morning sickness, are due to an imperfect reaction on the part of the mother to the growing ovum. Whether this is a manifestation of the inability of her tissues to neutralise or render innocuous distinct chemical poisons originating in the ovum, or is due to a so-called "biological reaction," or to some other mechanism, cannot be determined at this time. That some such connection will be demonstrated in the future I confidently believe, although at present it is impossible to adduce satisfactory evidence in support of such a contention.

Notwithstanding this belief, I still hold that my original classification of reflex, neurotic, and toxæmic vomiting should be retained, as in my hands it has demonstrated its value from the standpoint of prognosis as well as of treatment. In the first two varieties I regard the toxæmic element merely as a predisposing factor, and the reflex or neurotic influence, as the case may be, as the determining cause of the condition. Support is lent to such a view by the observation that, if the latter be removed or overcome by appropriate treatment, the underlying disturbance is so slight as to give rise to no symptoms, or to disappear spontaneously, or in response to the employment of simple measures. On the other hand, in the toxæmic variety the toxæmia, with its accompanying organic lesions and perversion of metabolism, is the predominating factor, and must be constantly reckoned with in the treatment of the disease.

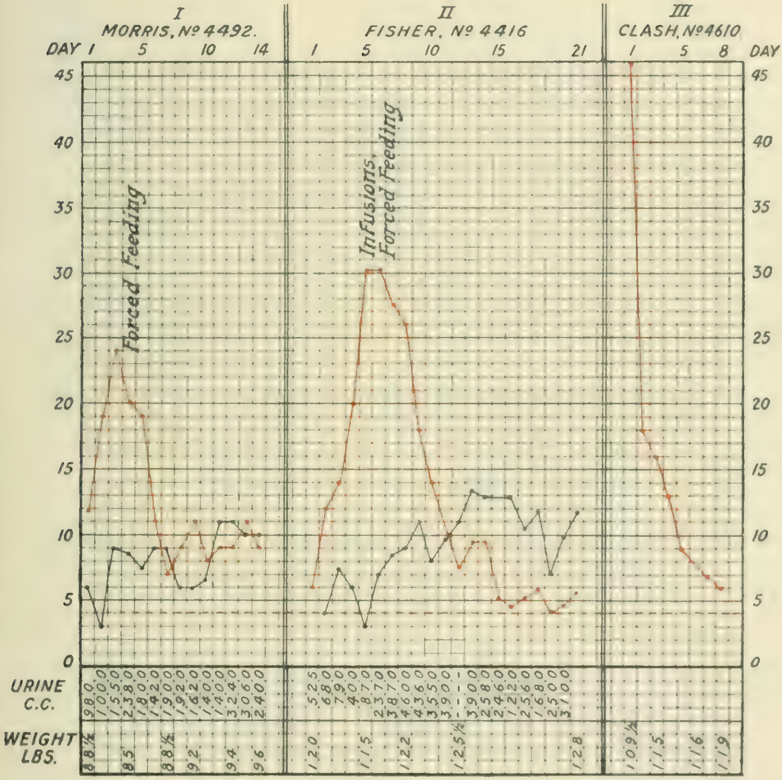
In my experience neurotic vomiting is the variety most frequently encountered, and, fortunately, it is ordinarily readily amenable to treatment, although, as will be pointed out later, it may exceptionally terminate in death by starvation if too long neglected. On the other hand, increased experience has led me to conclude that the frequency and importance of the reflex type has been greatly exaggerated. Doubtless vomiting may cease after applications to the cervix, the replacement of a retroflexed uterus, or the removal of an ovarian cyst. Notwithstanding such results, however, I have become more and more sceptical concerning the part played by reflex influences, and now hold that a large part of the curative effect of procedures aiming at overcoming them should be attributed to their suggestive influence. That such a supposition is not entirely theoretical is shown by the fact that in several instances of moderately severe vomiting, complicated by retroflexion of the uterus, I have noted that relief has followed the reposition of the organ and the introduction of a pessary, although a subsequent examination showed that the uterus had returned to its original abnormal position.

The toxæmic type of vomiting occurs much less frequently than the neurotic, but its incidence is considerably greater than that of the reflex variety. Unfortunately, its diagnosis is not so simple as I had originally believed, but its prognosis is quite as serious; and I still hold that it is practically the only variety of vomiting which necessitates the artificial termination of pregnancy, and even then a successful outcome is not assured.

I admit that increased experience has demonstrated the necessity for a radical revision of my views concerning the significance of a high ammonia co-efficient. In the first place, I have to acknowledge that one of 10 or 15 per cent does not justify a diagnosis of toxæmic vomiting; and in the second place, that even much higher values do not necessarily indicate the existence of a specific toxæmia.

My experience has taught me that many women suffering from neurotic vomiting gradually pass into a condition of profound inanition, and in such cases examination of the urine may reveal a high ammonia co-efficient, which is probably a manifestation of the existence of a starvation acidosis, as is indicated by the presence of acetone, diacetic, and oxybutyric acids. Thus, Charts I, II, III show an ammonia co-efficient of 24, 30, and 47 per cent respectively, which fell to normal within one week following forced feeding

NEUROTIC VOMITING WITH STARVATION.



Red lines — Ammonia co-efficient.
Black lines — Grams total nitrogen.

and suggestive treatment, while the patients respectively gained 11, 13, and 9½ lb. in weight during the same period, and were afterwards delivered at full term.

I consider that these women were suffering from neurotic vomiting, with resulting acute starvation, and that the perversion of metabolism was a manifestation of an acid intoxication incident to the latter condition. That such an interpretation is correct is strikingly demonstrated by the history of the patient, whose urinary findings are shown in Chart I. The woman was brought to the hospital by her physician, who stated that she was three months pregnant, had vomited all food for the previous month, and had become markedly emaciated. She weighed 88½ lb., but was not vomiting on admission. She received no food for the first twenty-four hours, during which time she passed 980 c.c. of urine containing 7 grains of nitrogen and presenting an ammonia co-efficient of 12 per cent. During the following two days there was no further vomiting, but as she did not care to eat I did not insist upon it, but contented myself with giving saline and nutrient enemata. At the end of that period the patient did not appear to be seriously sick, but as she had lost an additional 3½ lb. in weight, and the ammonia co-efficient had increased to 24 per cent, I concluded that the experiment had been sufficiently prolonged, and talked with her seriously, with the result that she was able to take and retain 200 c.c. of milk and 100 c.c. of water every two hours. Within a few days the ammonia had fallen to 8 per cent, and the daily excretion of nitrogen had increased to 9 grams. She soon began to ask for solid food, and within a few days was eating the regular ward diet. She was discharged on the fourteenth day after admission in excellent condition, having gained 11 lb. The vomiting did not return, and she was delivered normally at term.

The interpretation of this case is perfectly clear, as it is apparent that the patient was suffering from starvation dependent upon neurotic vomiting, and was cured by forced feeding and suggestion, while the high ammonia co-efficient was probably a manifestation of an acidosis. I feel confident that Cases II and III, as well as several others in my series, are susceptible to a similar explanation. On the other hand, I am not prepared to admit that this is the only explanation for a high ammonia co-efficient, as will be shown more particularly when we consider in detail our cases of true toxæmic vomiting.

In this connection, however, I wish to refer to the ammonia curve shown in Chart VI. This patient lived for more than a month following the interruption of pregnancy for supposed toxæmic vomiting, and during that period the ammonia co-efficient varied between 20 and 40 per cent. Upon three occasions an intravenous injection of 6 grams of sodium bicarbonate was given, with the result that the acid urine became neutral or alkaline in reaction, and remained so for from six to forty-two hours. Had the high ammonia been a manifestation of an acidosis such an effect could not have been obtained, as the amount of alkali employed lay within the range of normal tolerance, and was insignificant when compared with the quantity necessary to effect a similar change in acidosis complicating diabetes. Furthermore, Dr. Sellard, who was good enough to estimate upon several occasions the amount of acetone bodies contained in the urine, calculated that the increase in the ammonia co-efficient was many times greater than could be explained by their neutralisation. Consequently, he concluded that in this case, at least, we had to deal with a primary disturbance in the proteid metabolism, and not with a starvation acidosis. Furthermore, the presence of large amounts of fat in the subcutaneous tissues at the time of autopsy indicated that death must be attributed to some other factor than mere starvation,

In addition to the facts just adduced, certain negative evidence is available as tending to indicate that starvation is not necessarily the sole factor concerned in the production of a high ammonia co-efficient in vomiting of pregnancy. Thus, in Case II of my monograph the ammonia co-efficient fell from 32 to 12 per cent in the forty-eight hours following the induction of abortion, although the patient had taken no food. Consequently, it would seem, if inanition were the sole factor concerned, that the ammonia should have risen, but as it fell some other explanation must be invoked, and I am inclined to seek it in the rapid disappearance of the toxæmia following the emptying of the uterus. Furthermore, in Case V of the present series the patient had ceased vomiting and had been retaining satisfactory quantities of nutriment for several days, yet she died suddenly in coma, with an ammonia co-efficient of 35 per cent. In this instance the starvation had been overcome, and, therefore, could scarcely be invoked as a satisfactory explanation for the high ammonia.

In certain cases of delayed chloroform poisoning a relatively high co-efficient may also be observed, and reached 16 per cent in one of my patients, who died with the characteristic clinical signs and autopsy findings five days after an operative delivery at full term. Naturally, such an explanation would be inadmissible in patients who are vomiting before operation, but its possibility should always be borne in mind when the ammonia co-efficient rises after the induction of an abortion in which chloroform had been employed as an anæsthetic.

As has already been indicated, Whipple and Sperry have inquired whether it were not possible that the hepatic lesions which are supposed to characterise certain fatal cases of toxæmic vomiting might be the result of poisoning by the chloroform employed at the time the uterus was emptied. As the lesions are identical in the two conditions, there is no doubt that such confusion may occur; and I consider it quite possible that the death of the patient described as Case IV of my monograph may have been due to late chloroform poisoning, particularly as her symptoms were analogous to those observed in the case just mentioned. On the other hand, such an explanation cannot always be invoked, as abortion was not induced in Case V of the present series, while in Case VI the patient died thirty days after the uterus had been emptied by hysterectomy, during which nitrous oxide had been employed as the anæsthetic agent.

We are, however, greatly indebted to Whipple and Sperry for directing attention to this point; but to my mind the great value of their contribution, at least from an obstetrical point of view, consists in having directed our attention to the deleterious effect of chloroform upon the liver, and thereby warning us against its employment in women suffering from toxæmic vomiting, in whom, to say the least, the liver is a *locus minoris resistentiae.*

Thus far, I have shown that a high ammonia co-efficient may be a manifestation of inanition resulting from neurotic vomiting, but I have also incidentally indicated that such is not its only mode of production. We must now consider the evidence which can be adduced in favour of the existence of the toxæmic type of vomiting, and I may preface the argument by stating that I not only unhesitatingly believe that it occurs, but also that I consider it is the most serious type which we encounter. Unfortunately, it can no longer be contended that its clinical recognition is always easy, as it is not the only type of vomiting characterised by a high ammonia co-efficient.

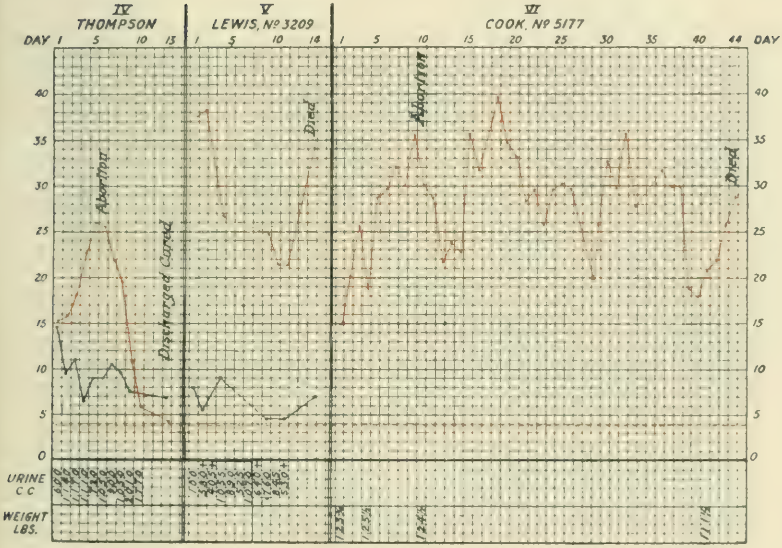
Nevertheless, I believe that for clinical purposes we can consider a given case of vomiting as toxæmic in origin whenever a seriously ill patient, presenting a high ammonia co-efficient (20 per cent or more), fails to improve after a few days' complete rest in bed, combined with suggestive treatment, energetic rectal feeding, and the administration of large quantities of salt solution per rectum and beneath the skin. Furthermore, the appearance of coffee-ground vomit, well-marked icterus, and a semi-comatose condition justifies an almost positive diagnosis, provided chloroform has not been employed as an anæsthetic, and if death ensues characteristic hepatic and renal lesions will be found at autopsy.

Charts IV, V, and VI give a clear idea of the variations in the ammonia co-efficient observed in this type of vomiting, and a summary of the clinical histories of the patients concerned cannot fail to impress even the most sceptical with the fact that some other factor than starvation must be concerned.

Thus, in Case IV, the 28-year old patient, who was pregnant for a second time and most anxious for a living child, began to vomit six weeks after the last menstrual period, and soon vomited everything she ingested. Her physician at once put her to bed and fed her by nutrient enemata, which were alternated with rectal injections of glucose solution. As she did not improve, I was asked to see her in consultation ten days after the onset of serious symptoms. At that time she appeared to be well nourished, but was very torpid mentally. The pulse was about 80, and the scanty urine presented an ammonia co-efficient of 16 per cent. Rectal feeding was pushed, and most vigorous suggestion employed, but notwithstanding all we could do her condition gradually became worse. By the end of the fifth day the ammonia had risen to 26 per cent, a purpuric eruption had appeared over the entire body, and she appeared so toxic that interference appeared imperative, although the pulse was still about 80. The uterus was emptied without difficulty under nitrous oxide anæsthesia, and immediate improvement followed, the vomiting ceasing and the ammonia falling to 7 per cent within the next five days.

The toxæmic nature of the condition was still further confirmed the day after the abortion by the appearance of conjunctival icterus, which soon spread over the entire body, while the purpuric eruption became more pronounced. Furthermore, the ammonia co-efficient immediately began to fall, and reached 20 per cent before the patient had

TOXÆMIC VOMITING.



Red lines – Ammonia co-efficient.
Black lines – Grams total nitrogen.

commenced to take food, and while she was receiving the same quantity of nutriment by the rectum as before the operation.

Still more conclusive evidence was afforded by Case V, which, owing to an unfortunate mistake, acquired almost the exactness of a carefully planned laboratory experiment. The 32-year old patient, who had had three previous labours, was admitted to the ward when four months pregnant, having vomited incessantly for the previous month, during which she lost 40 lb. in weight. At the time of admission she was considerably emaciated and greatly prostrated, with a pulse of 120. During the first twenty-four hours she passed 100 c.c. of urine, which contained 9 grains of nitrogen and presented an ammonia co-efficient of 37 per cent. Unfortunately, the assistant who made the determinations misplaced the decimal point in all his calculations, and did not discover the error until after the death of the patient. He accordingly reported that the first day's urine showed ammonia co-efficient of 3·7 per cent, and that on the subsequent days it remained within normal limits. Consequently, I made a diagnosis of neurotic vomiting, and placed the patient upon rectal feeding and suggestive treatment, which was so efficacious that her condition improved rapidly, and she was able to retain solid food by the end of the sixth day. Improvement continued until the eleventh day, when tonsillitis developed and the vomiting returned. The following morning, however, she ate with relish and retained a fair breakfast. Later in the day she became restless and excited, and passed into a comatose condition in which she died. Autopsy showed marked fatty degeneration of the liver and epithelial necrosis of the kidneys, together with other lesions which will be mentioned in the detailed history at the end of the article.

In this instance, the error in calculating the ammonia co-efficient caused me to overlook the toxæmic condition, and yet the treatment employed enabled the patient to retain the usual ward diet for a week. This being the case, I consider that no one would attempt to attribute the fatal issue to inanition; while the high ammonia co-efficient, which varied between 21·5 and 38·5 per cent, associated with hepatic and renal lesions, indubitably indicated the true nature of the condition.

Case VI, to which cursory reference has already been made, affords even stronger evidence of the existence of toxæmic vomiting, as in it experimental proof was adduced to demonstrate that the high ammonia co-efficient was not due to inanition acidosis.

This patient, in whom a previous pregnancy had been artificially ended on account of supposed toxæmic vomiting (ammonia co-efficient, 13 per cent), entered the hospital in November, 1911. At that time the vomiting was considered as neurotic in origin, and was apparently relieved by rest in bed, rectal feeding, and suggestion. She was discharged in excellent condition, weighing 136 lb. Within a few days after returning home an indiscretion in diet brought about a recurrence of the vomiting, which gradually became so intense that she re-entered the hospital on 7th December.

At that time she was able to retain nothing, weighed 124¾ lb., and presented ammonia co-efficient of 15 per cent. In view of her past history we were still inclined to attribute her condition to inanition incident to neurotic vomiting, and treated her accordingly. She, however, became gradually worse, the ammonia steadily rising until it reached 35 per cent, but there was no loss in weight. In view of the seriousness of her condition, the uterus was emptied by hysterotomy under nitrous oxide anæsthesia ten days after admission. For the next few days there was considerable improvement, which, however, did not continue, and death occurred in coma thirty days after the abortion. During that period the patient retained varying quantities of food, and never became greatly emaciated, losing only 12 lb. in forty days. The ammonia co-efficient varied between 18 and 40 per cent, but did not appear to be due to an acidosis, as was demonstrated by determining the quantity of acetone bodies in the urine, as well as the effect upon its reaction of the intravenous injection of sodium bicarbonate. These data have already received cursory mention, and will be given in detail in the complete history of the case. Autopsy showed that the subcutaneous fat was well preserved, while the liver presented marked fatty degeneration, and the kidneys signs of epithelial necrosis.

As the tests to which reference has been made indicate that the high ammonia was not due to an acidosis, while the preservation of large quantities of adipose tissue as well as the comparatively slight loss of weight speak against acute starvation, it is apparent that the urinary changes could not be regarded as a manifestation of an inanition acidosis. Consequently, we were forced to conclude that, in this instance, we had to deal with a primary perversion of proteid metabolism. Unfortunately, it is impossible to state at present whether this was the primary change, or whether it was dependent upon an underlying toxæmia. In either event, I believe that it cannot be attributed entirely to hepatic insufficiency; for, although the liver was the seat of profound fatty change, sufficient tissue was apparently left to effect the final changes in nitrogenous metabolism.

To my mind the evidence which I have adduced makes it perfectly clear that a high ammonia co-efficient in vomiting of pregnancy is not susceptible to a single explanation, and simply indicates that the patient is seriously ill. On the one hand it may be a manifestation of a starvation acidosis incident to neurotic vomiting, while on the other hand it may indicate the existence of a profound disturbance of metabolism, associated with serious hepatic and renal lesions, which is most readily explained as being dependent upon the existence of an underlying toxæmia. Unfortunately, it is impossible at this time to make any definite statement concerning the nature of the latter, or even to suggest a satisfactory theoretical explanation. The uniform presence of acetone bodies in the urine in all serious cases would suggest the probability of some interference with fat metabolism; but I believe that such changes are purely incidental, and afford us no information concerning the ultimate origin of the toxæmia.

The fact that serious vomiting frequently occurs in the first weeks of pregnancy renders it unlikely that the toxæmia can be directly due to the entrance of products of fœtal metabolism into the maternal blood, and forces us to consider other possibilities. In this connection, primary disturbances in energy production, the escape of ferments set free by the corrosive action of the rapidly growing trophoblastic cells of the ovum, as well as the possibility of "biological reactions" in the blood, may be thought of; but the information at our disposal is too scanty to permit even the formulation of an hypothesis.

Passing from these theoretical considerations to more practical matters, the time has come to enquire whether the study of the urine, and more especially the determination of the ammonia co-efficient, serves any useful purposes in the treatment of pernicious vomiting of pregnancy. To such a question I would give a most positive affirmative answer.

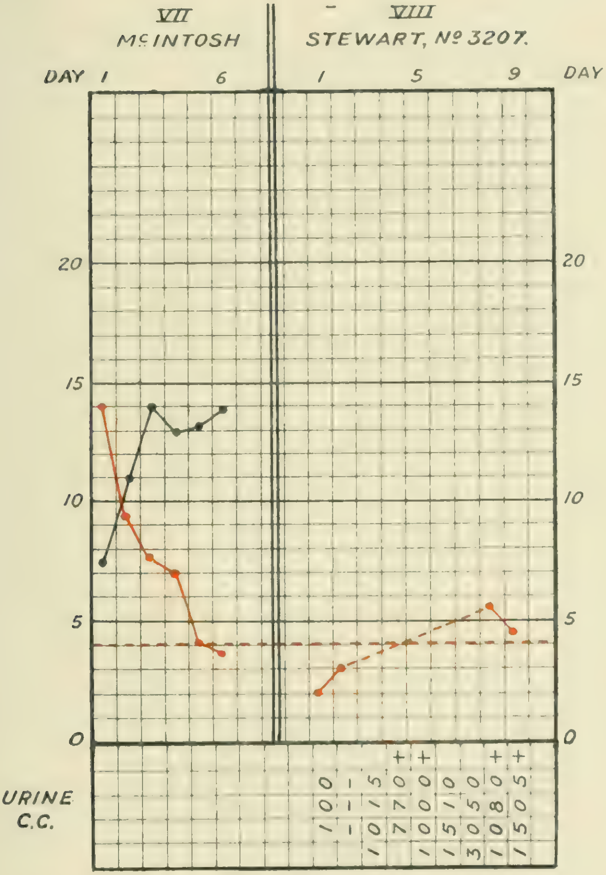
In the first place, it must be admitted that such studies have materially extended our knowledge of the condition, and it is only by employing all means of research at present at our disposal, or which may become available in the future, that we can expect to solve the problem of the ultimate cause of this malady. In the second place, I know from my own experience that the determination of the ammonia co-efficient is of the greatest practical value in determining the prognosis and treatment of serious vomiting, although I must reluctantly confess that it does not afford quite such precise information as I formerly believed. In my experience, in the absence of palpable lesions of the generative tract a low ammonia co-efficient affords indubitable evidence of the existence of neurotic vomiting, and thereby enables us to say, positively, that the condition is not alarming, is readily amenable to suggestive and dietetic treatment, and will not necessitate ending the pregnancy.

I am frank to confess that in my hands mere clinical observation does not permit such a differentiation, as I frequently see patients who appear so ill that the induction of abortion seems not only indicated but imperative, but in whom the presence of a low ammonia co-efficient gives one such assurance of the amenability of the condition to treatment that I am able to resort to suggestion with such confidence that complete, or at least relative, cure follows within a few days.

Charts VII and VIII illustrate the condition of the urine in two patients who were so desperately ill that at first glance induction of abortion appeared to afford the only prospect of avoiding a fatal issue, yet after the presence of a low ammonia had enabled me to diagnosticate simple neurotic vomiting, I was able to treat them so confidently by suggestion that the vomiting ceased within a few days without the use of drugs or the induction of abortion. Similar experiences have been so universal in my hands that I now regard with equanimity any case in which the ammonia co-efficient is 10 per cent or less.

On the other hand, the only positive information afforded by a high ammonia co-efficient is the fact that the patient is seriously ill, but unfortunately it does not enable us to determine whether her condition is due to starvation incident to neurotic vomiting, or to a serious perversion of metabolism dependent upon an underlying toxæmia. In such cases clinical observation alone permits the differentiation. The patient is put to bed, isolated as far as possible from her family, fed energetically by the rectum, given large quantities of salt solution per rectum and beneath the skin, but receives nothing by the mouth until she expresses a desire for it. At the same time she is reassured as much as possible. If

SIMPLE NEUROTIC VOMITING.



Red lines = Ammonia co-efficient.
Black lines = Grams total nitrogen.

improvement occurs within a few days, it is assumed that one has to deal with a starvation acidosis, and cure almost invariably follows suggestive treatment and forced feeding; if, however, the condition grows worse, we assume that the patient is suffering from toxæmic vomiting, and empty the uterus as the only means of averting a fatal issue. Should jaundice develop, or the patient begin to vomit without effort coffee-ground-like material, the diagnosis is assured, and the prognosis becomes even more dubious.

When it is determined to empty the uterus, the operation should be performed by whatever method promises the most rapid and conservative results. In multiparous women, in whom the cervix is soft and patulous, dilatation and curettage is the method of choice; but in all other cases vaginal hysterotomy should be performed, as it enables one to empty the uterus in a very few minutes with a minimum of shock and the least possibility of infection. In view of its deleterious action upon the liver, and the probability of its still further accentuating the lesions associated with toxæmic vomiting, chloroform should be avoided, and ether or preferably nitrous oxide gas employed for anæsthesia.

In connection with the clinical observation of the patient, there are two points upon which I desire to lay especial emphasis. Pinard has stated that a pulse-rate of 100 or more affords a precise indication for terminating pregnancy. This is not my experience, and I wish to issue a note of warning against the adoption of any such arbitrary rule. I have repeatedly observed a pulse-rate of 120 or more in cases of neurotic vomiting, and yet the patients have recovered perfectly. On the other hand, I have already indicated that I emptied the uterus in Case IV when the pulse was only 80, and have recorded in my monograph a fatal case in which it at no time rose above 96.

Likewise, it is generally stated that the presence of albuminuria is always of most serious prognostic import. In not a few cases a trace of albumen may be without significance, while in fatal cases it may be entirely absent or develop only during the hours immediately preceding death.

CONCLUSIONS.

1. The underlying factor in all cases of vomiting of pregnancy is probably an imperfect reaction on the part of the mother to the growing ovum.

2. In most cases this is only a predisposing cause, while

a reflex or neurotic influence is the exciting factor, and cure usually follows its removal.

3. I still hold to the classification of reflex, neurotic, and toxæmic vomiting. Of these the neurotic is the most and the reflex the least frequent type, while the toxæmic is the most serious.

4. Pronounced toxæmic vomiting is accompanied by characteristic lesions and profound changes in metabolism.

5. The significance of a high ammonia co-efficient is not specific. It may be a manifestation of toxæmic vomiting, of starvation following neurotic vomiting, or of an acidosis due to various causes.

6. It should be regarded merely as a danger signal, while the differentiation between the various types is possible only after careful clinical observation. If improvement does not promptly follow appropriate treatment, the existence of toxæmic vomiting should be assumed and abortion promptly induced.

7. In the absence of genital lesions, a low ammonia co-efficient indicates neurotic vomiting, which can be cured by suggestion and dietetic treatment, no matter how ill the patient may appear.

8. In primiparous women vaginal hysterotomy is the most conservative method of emptying the uterus. Nitrous oxide gas or ether should be used in preference to chloroform for anæsthesia.

CASE HISTORIES.

CASE I (No. 4492, Morris).—The 29-year old patient was admitted to the hospital on 21st July, 1910, and gave the following history:—

One preceding pregnancy, which was ended by forceps six years ago. The present pregnancy followed the menstrual period of 10th April, 1910, and was uneventful until the latter part of June. Since then she has suffered so intensely from vomiting that she could retain nothing, and has lost greatly in weight.

Examination showed a markedly emaciated woman, weighing 88½ lb., with a scaphoid abdomen. There was no jaundice, and no abnormality could be detected, except the presence of a three months' pregnancy. She was not vomiting at this time, but stated that she did not care to eat. The twenty-four-hour specimen of urine measured 980 c.cm., contained 6 grams of total nitrogen, and presented an ammonia co-efficient of 11·5 per cent. No albumen or casts.

For the first day she received no nutriment of any kind, but on the following day the administration of saline and nutrient enemata was commenced. Within three days she lost an additional 3½ lb., and, as the ammonia co-efficient had risen to 24 per cent, it was felt that the starvation had continued sufficiently long. Accordingly, she was told that she had to eat and retain her food, and to our surprise she took 200 c.cm. of milk and 100 c.cm. of water every two hours, and retained them without effort. She continued to do this for several days, when she began to ask for solid food. This was given in constantly increasing amounts, so that by the tenth day she was able to eat and enjoy the regular ward diet. Coincidently with this the ammonia co-efficient fell, and the amount of total nitrogen and the output of urine increased (Chart I). She gained rapidly in weight, taking on a pound each day she remained in the hospital after forced feeding had been commenced, and was discharged on the fourteenth day, weighing 96 lb.

Her further history was uneventful, and she was delivered spontaneously at full term.

Case II (No. 4416, Fisher).—The 30-year old patient was admitted to the ward on 15th May, 1910. She was pregnant for the first time, and nausea and vomiting had appeared shortly after the last menstrual period, which occurred on 10th February, 1910. She stated that she had eaten no solid food during the month preceding admission, the last week having been spent in bed. She had lost greatly in weight, and suffered from headache, persistent salivation, and a great diminution in the amount of urine.

Examination showed a large-framed, emaciated woman, weighing 120 lb., with a distended abdomen. The pulse varied between 90 and 100, while the temperature was normal. She complained of considerable epigastric pain and profuse salivation—330 c.cm. in the first twenty-four hours. There was no jaundice, and a careful physical examination was negative, except for a three months' pregnancy. The patient was very nervous, and there was a distinct odour of acetone to her breath.

As the urine presented an ammonia co-efficient of 6 per cent, a diagnosis of neurotic vomiting was made, and suggestive treatment was instituted. For the first twenty-four hours she was given 1,800 c.cm. of salt solution *per rectum*, and ice by the mouth. For the next few days she was given nutrient, saline and glucose enemata, but without improvement in her condition. During that time she lost an additional 5 lb., the pulse became more rapid and remained about 120, while the ammonia co-efficient rose rapidly, reaching 30·5 per cent (Chart II).

On the following day she received two submammary saline infusions of 1,000 c.cm. each, in addition to the enemata, and was talked to so energetically that she took by mouth 1,270 c.cm. soda water, 520 c.cm. water, the whites of ten eggs, and 1 oz. of sugar. Immediate improvement followed, as was shown by the complete disappearance of nausea and a marked increase in the output of urine.

The same treatment was continued on the seventh day, but was discontinued thereafter, as she began to eat with relish and improved rapidly. The pulse became slower and she gained in weight, while the quantity of urine became still more abundant and the salivation ceased. As shown in Chart II, the ammonia co-efficient fell rapidly, reaching 6 per cent on the twelfth day and 4 per cent a few days later, while at the same time the output of total nitrogen increased. The improvement was progressive, so that the patient was discharged on the twenty-first day after admission, having gained 13 lb. since the institution of forced feeding. There was no further recurrence, and she was delivered spontaneously at term.

The urine at no time contained albumen or casts, but the presence of acetone and diacetic acid was repeatedly demonstrated during the first ten days. As the condition improved there was a corresponding diminution in the amount of salivation, which fell from 330 to 35 c.cm. in the course of eleven days.

CASE III (No. 4610, Clash).—The 26-year old negress entered the hospital on 12th October, 1910. She had aborted spontaneously at eight weeks, two and a half years previously, but had had no other pregnancy. Her general health was not good, having been impaired by several serious illnesses.

Her last menstrual period occurred on 14th July, and morning sickness appeared in the latter part of August. This gradually grew worse, so that she vomited almost constantly for the month preceding admission, the last week of which she had spent in bed and had been fed *per rectum* by her physician.

On admission she was found to be a thin, neurotic woman, weighing 109½ lb. Pulse, 110; temperature, normal. She did not appear to be very ill, but during the first day in the hospital vomited everything she ingested. She complained of great tenderness in the epigastrium, but a careful physical examination revealed no abnormality, except a three months' pregnancy.

Notwithstanding an ammonia co-efficient of 46 per cent, a diagnosis of neurotic vomiting was made, and suggestive treatment was instituted. On the second day she was forced to take considerable quantities of milk and water by mouth, and was given subcutaneous saline infusions, as well as rectal saline enemata. This was followed by immediate improvement, and the nausea and vomiting soon ceased. On the second day the ammonia fell to 18 per cent, and thereafter soon approached normal (Chart III).

By the fifth day she was able to retain the ordinary surgical soft diet, and four days later she was eating the ward diet with relish. She was discharged on the tenth day in excellent condition, weighing 119 lb., a gain of 9½ lb., and presenting an ammonia co-efficient of 6 per cent.

As she did not report later, I am unable to give particulars concerning the further course of her pregnancy.

Case IV (A. W. T., private patient).—The 28-year old patient was seen in consultation on account of pernicious vomiting. She had been married seven years, had no children, and one miscarriage at the fourth month six years previously. In the first weeks of that pregnancy she had suffered from persistent nausea.

The present pregnancy followed the menstrual period occurring on 17th August, 1910. She began to vomit early in October, and had been unable to retain anything after 5th October. Her physician put her to bed and placed her upon nutrient and glucose enemata, but as her condition grew worse he asked me to see her, particularly as the urine presented an ammonia co-efficient of 20 per cent.

When I saw the patient on 12th October, she appeared to be a well-nourished woman presenting no signs of emaciation. Her lips were parched, her tongue markedly coated, and she presented a torpid expression. Physical examination revealed no abnormality except a two months' pregnant uterus, which was slightly retroverted.

I advised that four nutrient enemata be given each day, as well as an equal number of glucose solution, and talked as hopefully as possible. On the following day the patient was somewhat better, as well as on the 14th. On that day

1 oz. of milk diluted with lime water was given and caused immediate vomiting. Following this she was unable to retain anything by the mouth, and was nourished exclusively *per rectum*. Her condition gradually became worse, and on the seventeenth day she presented a decidedly toxic appearance, was extremely apathetic, and a macular eruption had appeared over the neck and body, while at the same time the ammonia co-efficient had risen to 26·2 per cent (Chart IV).

In view of these conditions, it was decided that it would be unsafe to allow the pregnancy to continue, and abortion was induced under nitrous oxide anæsthesia, when the cervix was dilated, and the uterus emptied by means of a dull curette ovum forceps.

It is interesting to note that the pulse at no time before or after the operation exceeded 80, while the temperature remained normal. There was no nausea following the anæsthesia, and the day afterwards the patient presented an entirely different appearance, appeared bright and cheerful, and had not vomited. This change occurred without any alteration in the rectal feeding, and while no food was being taken by the mouth.

The following day her condition was still further improved, while the ammonia co-efficient had fallen to 20 per cent, although no change had been made in her diet, but she was ordered to begin taking food that afternoon. At that time there was a slightly yellowish tinge to the conjunctivæ, which had not been present previously. On the third day after the abortion her condition was still further improved, and the enemata were discontinued, as she was taking with relish abundant quantities of liquid food. The icterus, however, had become more pronounced and now involved the entire body, while the macular eruption which had been present before the operation became accentuated. Four days after the abortion the patient was not nauseated at all, and was placed upon solid food. The ammonia co-efficient had fallen to 10·8 per cent. From that time onward improvement was rapid, and one week after the abortion she was out of bed in excellent condition, except for a slight icteric discolouration of the skin which slowly disappeared. Further convalescence was uneventful.

Case V (No. 3209, Lewis).—Admitted on 29th October, and died on 9th November, 1907. The 32-year old patient was brought to the hospital on a stretcher by her physician on account of pernicious vomiting, which had resisted all his efforts to cure. She had had three spontaneous labours, and the last menstrual period occurred on 16th June, 1907. She had vomited more or less since early in September, but for the month prior to admission had been unable to retain anything. She stated that the vomitus was a greenish fluid, whose ejection was accompanied by a marked burning sensation in the throat and epigastrium. She had become greatly emaciated, and weighed 110 instead of 150 lb. as usual.

On admission she was markedly prostrated, and the pulse varied between 110 and 120. Except for emaciation, examination showed no abnormality other than a four months' pregnancy. During the first twenty-four hours in the hospital she passed less than 100 c.c. of urine, and as this apparently showed an ammonia co-efficient of 3·7 per cent a diagnosis of neurotic vomiting was made. Consequently, the patient was placed upon nutrient and saline enemata and was subjected to suggestive treatment. Following this there was marked improvement: the pulse became less rapid, the vomiting practically ceased, the urine increased in amount, and the mental condition became much more normal than on admission.

By the sixth day the improvement was so pronounced that she was able to retain fluids, while on the following day she took and retained solid food. The improvement continued until the eleventh day, when a tonsillitis developed and the vomiting returned. The following day she ate and retained a fair breakfast and a light dinner. Later in the day she became restless and excited, and eventually passed into a condition of coma, in which she died. Just before death the temperature was 102° and the pulse 126.

Autopsy showed marked fatty degeneration of the liver and kidneys, epithelial necrosis of the kidneys, fatty degeneration of the myocardium, thyroid hypertrophy, aspiration of the stomach contents, hypostatic congestion of the lungs, broncho-pneumonia, accessory pancreas.

On the day after her death the assistant who had made the urinary analyses reported that an error had been made in calculating the ammonia co-efficient, as he had misplaced the decimal point, so that the co-efficient of the first day's urine was 37 per cent instead of 3·7 per cent, as reported. The corrected figures are given in Chart V.

Case VI (No. 5,177, Cook).—28-year old nullipara. Her first pregnancy, in 1908, was ended by the induction of abortion for the relief of supposed toxæmic vomiting. The last menstrual period before the present illness was 24th September, 1911, and vomiting began on 5th November. Within a few days it became so incessant that nothing could be retained, and the patient was put to bed by her physician and placed upon nutrient and saline enemata. As her condition became steadily worse she was admitted to the hospital on 14th November, 1911, when physical examination revealed no abnormality, although the urine presented an ammonia co-efficient of 13 per cent. As rapid improvement followed suggestive treatment and forced feeding, a diagnosis of neurotic vomiting was made, and she was discharged two weeks later apparently cured, weighing 136 lb. and presenting an ammonia co-efficient of 3·9 per cent.

Two days after her return home the vomiting reappeared, apparently following an indiscretion in diet. It immediately became uncontrollable, so that during the next eight days she lost 12¼ lb. in weight, and was readmitted to the hospital on 7th December. At that time she looked very ill, the pulse varied between 110 and 130, and the ammonia co-efficient was 15¼ per cent.

Notwithstanding the employment of nutrient, saline, and glucose enemata, as well as of subcutaneous infusions of salt solution, her condition gradually became worse, although there was no further loss of weight. The pulse continued rapid, and the patient appeared torpid and toxic, while the ammonia co-efficient gradually rose to 34·5 per cent. Consequently, ten days after admission (16th December) the induction of abortion seemed indicated, and was readily effected by vaginal hysterotomy, nitrous oxide being used as an anæsthetic.

For a short time her condition seemed to improve, so that three days after the abortion she was able to take and retain surgical soft diet, while the ammonia fell to 22 per cent. Unfortunately, the improvement was short-lived, as the vomiting reappeared on the following day (20th December) and persisted to a varying extent until death occurred on 16th January, although at intervals she was able to retain considerable quantities of food. During this period the ammonia co-efficient varied between 17 and 40 per cent, the pulse remained constantly rapid, and the patient lost gradually in weight but at no time became greatly emaciated. Just before death her weight was 24 and 12¾ lb. less, respectively, than upon her first and second admissions to the hospital.

Beginning with 1st January, her mental condition became more and more torpid, and for some days before death she would forget to withdraw her tongue after having been told to show it. She became completely unconscious the morning before death, and died in coma. Physical examination gave uniformly negative results. The subcutaneous fat was well preserved until the end. There was no jaundice, and coffee-ground vomit appeared only on the day before death. The temperature was uniformly normal, and reached 100 only upon one occasion eight days after the abortion.

Reference has already been made to the ammonia coefficient, which is graphically shown in Chart VI. The urine constantly contained traces of albumin, and occasionally a few casts, as well as traces of acetone and diacetic acid. Upon two occasions analysis showed the presence of 0·248 and 0·095 grams of acetone, and of 0·021 and 0·162 grams of oxybutyric acid respectively per litre. Bile pigments were at no time present.

In order to determine whether the high ammonia was due to an acidosis, one grain of sodium bicarbonate was given by mouth for twelve consecutive hours seven days after the abortion, but had no effect upon the reaction of the urine. Furthermore, on 24th December, as well as 6th and 7th January, 400 c.cm. of a 1·5 per cent solution of sodium bicarbonate were injected intravenously. In each instance the previously acid urine became alkaline in reaction, and remained so for forty-two, thirteen, and thirty-four hours afterwards respectively.

On 9th January 10 c cm., and on 14th January 20 c.cm. of blood serum obtained from a normal pregnant woman were injected intravenously, but without apparent effect. On two occasions the fibrinogen content of the blood was determined, and was found to lie within normal limits—0·3850 and 0·3825 grams per 100 c.cm.

At autopsy the anatomical diagnosis was—Fatty liver and kidneys, œdema and congestion of the lungs, chronic fibrous pleurisy, ulcer of vaginal wall. The subcutaneous fat was well preserved, and the body showed no signs of emaciation. The liver was yellowish in colour, and on section the lobules were sharply marked, presenting a light yellowish periphery and a reddish centre. Fresh microscopic sections stained with Sudan red showed that each lobule was densely infiltrated with fat, but sections through hardened tissue showed that there was no central necrosis, and that the nuclei were well preserved.

CASE VII (M., private patient).—I saw the patient in consultation, when I obtained the following history:—25-year old nullipara, in whom two previous pregnancies had been interrupted for the relief of pernicious vomiting—in February and September, 1911.

The present pregnancy followed the menstrual period of 20th December, 1911, and was uneventful until the end of January, when she began to vomit incessantly and could retain nothing. When I saw the patient on 4th February she was in bed and retching at frequent intervals, but bringing up only small quantities of yellowish fluid. She was very thin, and said that she had lost markedly in weight since the onset of the attack. The pulse varied between 80 and 90, and a careful physical examination revealed no abnormality except an early pregnant uterus. In view of their past experience, the patient and her husband believed that relief could be obtained only by emptying the uterus.

A specimen of urine obtained at this visit showed 15 grams of total nitrogen per litre, and an ammonia co-efficient of 14 per cent, but no other abnormality.

A tentative diagnosis of neurotic vomiting was made, and the patient talked to seriously, placed upon saline enemata, and told that I was confident that I could control the condition without interfering with the pregnancy. Prompt improvement followed. Within forty-eight hours she was able to retain small quantities of fluid nourishment, while the ammonia had fallen to 7·67 per cent. Under the influence of suggestive treatment she grew steadily better, and was able to retain increasing amounts of food, so that by the end of the sixth day she was able to resume her ordinary diet, and to eat and retain "bacon and greens." At the same time the ammonia co-efficient had fallen to 3·56 per cent (Chart VII). The recovery was permanent, and the patient was uneventfully delivered at full term.

CASE VIII (No. 3207, Stewart).—Admitted 28th October, and discharged 10th November, 1907. I saw the patient in consultation with her physician, from whom I obtained the following history:—Age, 17 years; nullipara; last menstrual period, 6th May, 1907. For the previous three weeks she had suffered from almost constant vomiting, had retained practically no food, and her condition had become so serious that I was asked to see her to consider the propriety of inducing abortion. The emaciated patient was lying in bed and vomiting small quantities of frothy fluid every few minutes. She was greatly prostrated, pulse 136, with the eyes sunken far back into their sockets. Her condition was so serious that I arranged for her to enter the hospital the next morning, but I advised that she see a priest before doing so.

On admission the pulse was 130 and the temperature normal. Examination was negative except for a markedly scaphoid abdomen and a six-months' pregnancy. The patient complained of constant nausea, associated with burning in the throat and epigastrium; there was no œdema, and the urine was free of albumen or casts. Her condition appeared so serious that the induction of abortion seemed urgently indicated, but it was deferred in order to give an opportunity for the collection of a twenty-four-hour specimen of urine. In the meantime all attempts at feeding by the mouth were discontinued, and she was placed upon nutrient and salt solution enemata.

To our great surprise the ammonia co-efficient was found to be only 2 per cent, so that a diagnosis of neurotic vomiting was made. Consequently, it did not appear necessary to induce abortion, but, instead, the patient was treated by suggestion and the rectal feeding continued. Her general condition improved rapidly, and the pulse fell to 80-100 by the fourth day. The quantity of urine, which on the first day was only 100 c.c., increased to 1,015 c.c. on the third and to 3,050 on the seventh day. On the fifth day the patient was anxious for food, and retained what she took, so that the enemata were discontinued. She was out of bed on the ninth day with a normal pulse, and was discharged on the fourteenth day in excellent condition. A month later she returned to the hospital when the change in her appearance was marvellous, and no one could have recognised the red-cheeked girl for the emaciated woman who had been admitted to the ward. There was no recurrence of the vomiting, and a normal labour occurred at full term.

NECROSIS OF THE VERTEBRÆ FOLLOWING SCARLET FEVER.

BY D. F. RIDDELL, M.A., M.B., CH.B.GLASG., D.P.H.CAMB.,
Assistant Medical Officer, Brook Fever Hospital, London.

ADA B., æt. $3\frac{3}{4}$ years, admitted to the Brook Hospital on 3rd March, 1910, certified scarlet fever.

The case was a typical attack of scarlet fever of a septic type, with severe ulceration of the fauces, and was further complicated by a bad attack of broncho-pneumonia, which came on two days after admission.

On 12th March the child became very much worse, and showed signs of an attack of laryngitis. Her condition grew rapidly worse, and tracheotomy had to be done the same evening.

Thereafter the course was that of a typical septic scarlet fever case. Numerous abscesses developed, three being glandular abscesses of the neck and one peri-anal. In addition, she had the other usual complications, viz., otorrhœa and nephritis.

The tracheotomy tube, taken out six days after the operation, had to be replaced owing to continued respiratory distress, and was only finally removed on 12th May. The temperature had now fallen to normal, and kept so for the next three weeks, when a sudden rise took place, accompanied by severe respiratory distress. The symptoms became so severe that tracheotomy had again to be done to relieve her. During the operation a small glandular abscess at the side of the trachea was opened, and a few days later another abscess in the neck had to be opened.

On 26th July the tracheotomy tube was removed, and the wound rapidly healed. The general condition of the child was fairly good, and by 6th August she was allowed to get up in clothes and go out. So far as could be ascertained, there was no evidence of any further complication. The child could walk very well, and was almost ready to be discharged when, on the evening of 15th August, there was a rise in temperature and marked respiratory distress.

The condition became so severe that on 17th August the tracheotomy wound had to be opened up and a tube put in.

The clinical signs pointed to pressure as the cause of the trouble, and the temperature suggested an abscess, but no definite signs could be found on examination.

Three days after (20th August) the child began to cough up large quantities of purulent material through the tube, and a careful examination was made for a sinus or abscess beside the trachea, without success. Examination of the chest only pointed to some broncho-pneumonia, with signs of old pleurisy.

On 2nd September a large fluctuant swelling suddenly appeared on the back, to the inner side of the right scapula. This was incised, and a large quantity of foul pus was evacuated. On probing the wound, necrosis of a vertebral spine was found.

The patient was now able to dispense with the tracheotomy tube, but continued to cough up quantities of pus similar to that discharging from the wound in the back.

The child gradually sank, and died on 14th September.

The following is the report of the *post-mortem* examination:—

The back was examined first. On cutting down on the vertebral column at the region of the abscess it was found that the spine of the first dorsal vertebra was necrosed, only a small portion remaining. The right lamina also showed signs of necrosis. There was a small patch of necrosis in the spinous process of the second dorsal vertebra.

The condition at the back being ascertained, the autopsy was proceeded with in the usual manner.

On dissecting alongside of the trachea, a sinus track was found on the right side running back from the wound. A probe, passed along this sinus, was felt to grate on evidently carious bone.

The lungs were both adherent to the chest wall from old pleurisy, and both were removed together with the trachea. On removal, a large cavity was laid bare, in which there was a collection of pus. This was sponged away, and it was seen that there was extensive disease of the vertebræ. The body of the first dorsal was found to be almost completely necrosed, and the spinal membranes were visible, only a shell being left to represent the body. The second dorsal vertebra was also extensively necrosed, though not to the same degree as the first, as the lower half of the body was only partially destroyed. There was also some degree of necrosis of the bodies of the seventh cervical and the third dorsal vertebræ.

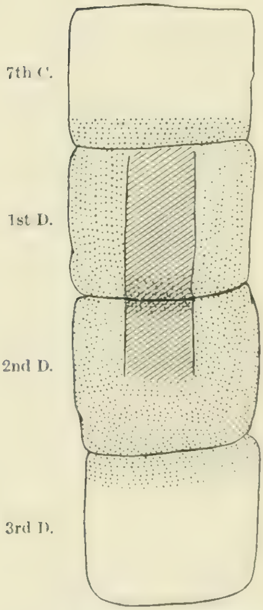
The lungs, on section, showed evidence of tuberculosis, and the glands in the mediastinum were caseous and breaking down.

There was nothing noteworthy in the other organs.

The chief point of interest in the case lies in the fact that there were no preliminary physical signs to suggest such extensive destruction as was found *post-mortem.*

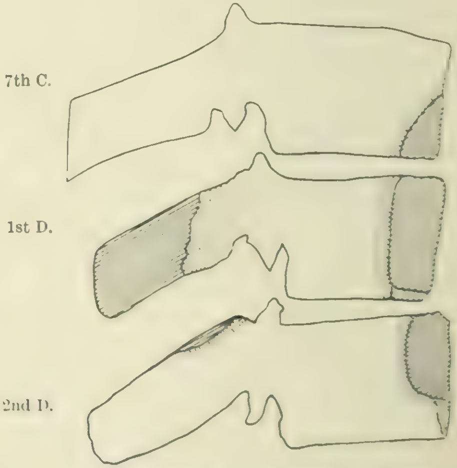
At no time were there any symptoms which could suggest any spinal condition until the appearance of the swelling over the vertebræ behind. When the last tracheotomy was done, it was evident that the cause of the respiratory distress was pressure due to a swelling of some kind, either an abscess or a tumour—most probably an abscess—though no external swelling was present to aid in localising it.

CONDITION OF VERTEBRÆ SHOWN DIAGRAMMATICALLY.

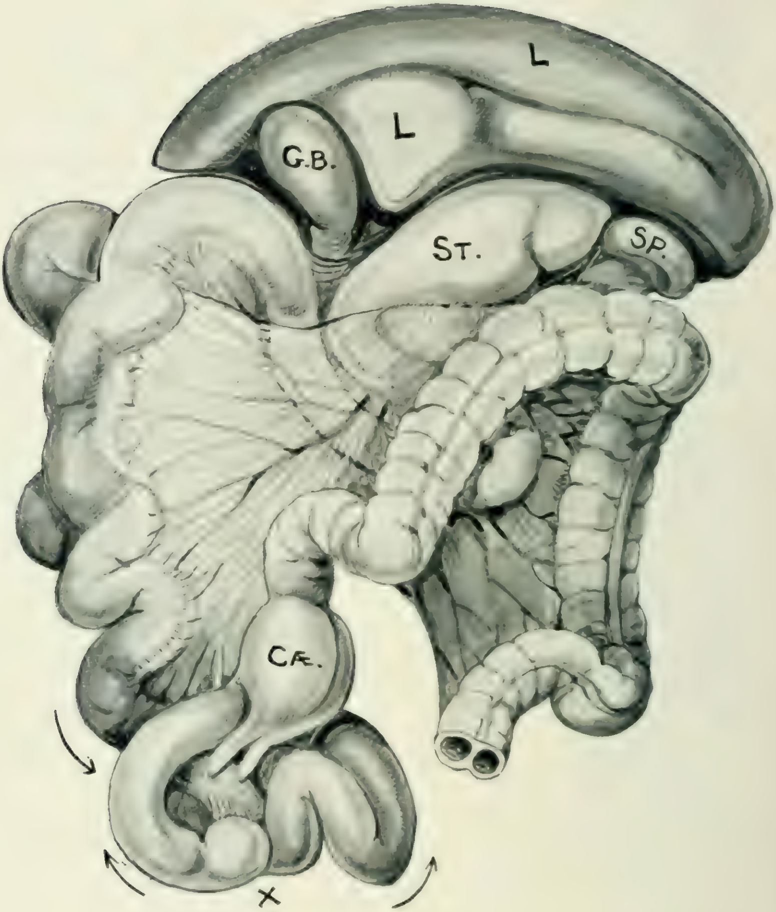


The dotted area represents the partially necrosed bone, while the darker shaded part represents the appearance of the spinal meninges as seen.

It will be noted that there was a small bridge of bone left at the lower part of the first dorsal body and upper part of the second.



The dotted area shows surface and incomplete necrosis. The darker shaded parts were completely destroyed and absent.



SMALL INTESTINE TURNED TO RIGHT AND COLON PULLED DOWNWARD.

X	Point of division of ileum.	ST.	Stomach.
L	Liver.	CÆ.	Cæcum.
G.B.	Gall-bladder.	D	Duodeno-jejunal flexure.

To illustrate Dr. A. Blair Aitken's communication.

The spinal condition was most probably tubercular in origin, but the extensive necrosis was due to a septic infection which only became acute in its later stages.

I am indebted to Dr. Byles, Medical Superintendent of the Brook Fever Hospital, London, for permission to publish the case.

CASE OF DOUBLING OF THE GREAT INTESTINE.

BY A. BLAIR AITKEN, M.B., CH.B., GLASG., F.R.C.S.

THE following instance of the above condition is noteworthy from the fact that it was not associated with any evidence of duplicity on the part of other important organs. It occurred in a female child, the subject of a large congenital umbilical hernia. When the child came under observation, about seventeen hours after birth, the thin covering of the hernia, consisting of the greatly distended proximal portion of the cord, was extensively ulcerated. No operative measures were undertaken, as the case seemed unsuitable, and death occurred the following day.

Post-mortem, the hernial sac was found to contain the lower part of the ileum for a distance of 47 centimetres above the ileo-cæcal junction, the cæcum, and the proximal part of the colon (7·5 centimetres).

Towards its termination the ileum bifurcated (marked × in illustration), forming two completely separate tubes of equal calibre and length (17 centimetres), ending on opposite sides of a small, somewhat conical, cæcum. Between these two ileo-cæcal junctions the wall of the cæcum showed a deep sulcus running in a longitudinal direction, and sub-dividing this portion of gut into two parts, with a small vermiform appendix about 2 centimetres in length at the extremity of each.

From the cæcum there issued an apparently single great intestine, somewhat contracted, but otherwise normal in external appearance as far as the middle of the descending colon. At this point a deep furrow appeared in the situation of one of the longitudinal muscular bands, and persisted down to the termination of the gut. Upon section of the colon it was found that the lumen of this part of the intestine was divided by a septum into two completely separate channels which opened externally, one at the normal anal aperture, the other within the vulvar cleft just in front of the posterior commissure. The intestinal lumen was therefore double from the lower part of the ileum onwards.

A microscopic examination of transverse sections made from various parts of the colon showed that in the proximal part the septum between the two lumina was composed of mucosa and submucosa alone, the muscular coats passing uninterruptedly round the circumference of the gut. In the distal part, *i.e.*, from about the middle of the descending colon downwards, the separation between the two tubes was more complete, the septum here consisting of a double layer of all the coats of the gut save the longitudinal muscular layer, of which only traces were present among the fibrous tissue separating the two layers of circular muscle.

Examination of the other viscera revealed no abnormality beyond a lobulated condition of the kidneys and defective development of the uterus: this organ presented the condition *uterus unicornis*, the left horn being rudimentary. No skeletal abnormality was detected.

In the general disposition of the intestine within the abdomen, and in the arrangement of its mesentery, there were some points of interest. The upper and anterior part of the abdomen was occupied by some large dilated coils of ileum lying in front of the stomach and transverse colon. On turning these to the right (see diagram) the stomach and transverse colon came into view, save the right extremity of the latter, which was tucked up behind a fold of peritoneum —part of the common mesentery of the ileum and colon folded on itself (in the illustration the colon is represented pulled down so as to straighten out the fold of the mesentery). By turning upwards the colon and ileo-colic junction the duodeno-jejunal flexure was displayed, and from this point the small intestine took a tortuous course towards the right and then upwards, forming the dilated coils already mentioned as occupying the upper part of the abdomen.

The attachment of the mesentery to the abdominal wall was ⊂-shaped, the lower limb of the ⊂ being formed by that part of the mesentery passing to the small intestine, whilst the upper limb consisted of the mesocolon and the mesentery passing to the terminal portion of the ileum. In this limb of the mesentery the superior mesenteric artery was situated, running on the free margin of the fold of mesentery already mentioned.

There was no gastro-colic omentum, the peritoneum passing directly from the lower border of the stomach on to the posterior abdominal wall, and thence on to transverse colon forming its mesentery.

In the usual situation of the foramen of Winslow there was a small aperture through which a probe could be passed and made to present against the gastro-hepatic omentum. On dissection, the greater part of the posterior wall of the stomach was found to be devoid of peritoneal covering, lying directly in apposition with the retro-peritoneal tissue.

The "lesser sac" of peritoneum was, therefore, much diminished, corresponding nearly to the "vestibular portion" (Keith), the omental part being unrepresented.

The association of congenital umbilical hernia with various visceral anomalies is well known. The interest of the present case lies rather in the fact that the condition of doubling of the intestine occurred without duplication of other organs or skeletal abnormality.

Numerous cases of duplication of the intestine in birds have been recorded by Otto,[1] Cleland,[2] and Paterson,[3] all associated with the presence of one or more additional and more or less fully developed limbs. Detroye [4] records a case occurring in a cow where the lower part of the great intestine was double, this being the only abnormality present. In the human subject cases have been recorded by Bertaux,[5] Volpa [6] (whose case presented also duplicity of the external genitals, urethra, and bladder), Valenti and Pisenti[7] (a case of duplicitas parasitica). Schwalbe [8] gives a figure of a double appendix, one opening on either side of a single cæcum. This occurred in two cases of extroversion of the bladder, where an opening of the gut on to the anterior abdominal wall co-existed. The same authority also refers to a somewhat similar case described by Hammers.[9]

Thus, in the great majority of cases, duplication of the intestine has been found associated with extensive visceral or skeletal abnormality.

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[1] Otto, *Monstrorum Sexcentorum descriptio anat.*

[2] Cleland, *Memoirs and Memoranda in Anatomy.*

[3] Paterson, *Journal of Anatomy*, vol. xxi.

[4] Detroye, *Rec. de Med. Veter.*, p. a l'Ecole d'Alfort, Paris, 1896.

[5] Bertaux, *Bulletin Méd. du Nord*, 1891.

[6] Volpa, *Il Policlinico*, January, 1903.

[7] Valenti and Pisenti, *Atti dell Acc, Med.-Chir. di Perugia*, 1896.

[8] Schwalbe, *Die Morphologie der Missbildungen des Menschen und der Tiere*, Jena, 1909, III Teil, 1 Lfg., p. 81.

[9] Hammers, *Zeitschrift f. Heilk*, Berlin, 1897, Bd. XVIII, p. 75.

The disposition of the alimentary canal and its mesentery found in the present case is evidently the result of a disturbance of the rotation of the primary U-shaped or umbilical loop of gut, the extremity of the loop having been prevented (probably by reason of its continued extra-abdominal position) from following and completing the movement initiated at the neck of the loop. The part of the process mainly concerned has been that affecting the distal limb of the loop, probably on account of the comparatively small portion of intestine developed from this limb, which has been unable to surmount the superior mesenteric artery, and has passed to the right beneath it, leading to the folding of the mesentery already mentioned. The rotation of the proximal limb of the loop, occurring at a slightly earlier period (Bruce Young[1]) would not be so readily impeded on account of the relatively large part of intestine developed from it.

The complete absence of the great omentum is doubtless the result of deficient growth of the mesogaster, at least in so far as the formation of an omental pouch is concerned, and possibly the altered peritoneal relations of the stomach are referable to the same cause, the deficient growth preventing that evagination and pouching of the whole mesogaster to the left, which normally occurs. In these circumstances it is conceivable that the enlarging and rotating stomach might strip up the peritoneum from the posterior abdominal wall, and so take up the position above indicated. An alternative, but less likely explanation, would be fusion of the layers of peritoneum forming the anterior and posterior walls of the lesser sac.

I am indebted to Mr. R. H. Parry for permission to publish this case, which was admitted to the Royal Hospital for Sick Children, Glasgow, during my term of office as house surgeon.

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[1] Bruce Young, *Memoirs and Memoranda in Anatomy* (Cleland).

Obituary.

ROBERT ALEXANDER PATON, M.B., C.M.GLASG., MANCHESTER.

We regret to announce the death, which occurred at his residence, Headham House, Harpurhey, Manchester, on 25th October, of Dr. R. A. Paton.

Deceased, who graduated in 1891, died of pneumonia in his forty-seventh year.

CURRENT TOPICS.

APPOINTMENTS.—The following appointments have recently been made:—

A. B. Cluckie, M.B., Ch.B. Glasg. (1908), to be Senior Ophthalmic Surgeon to the Bath Hospital.

Rutherford Cramb, M.B., Ch.B. Glasg. (1909), Assistant Medical Officer of the County Asylum, Preston, to be School Medical Inspector under the Essex Education Committee.

John Guy, M.D. Glasg. (M.B., 1894), F.R.F.P.S.G., D.P.H. Camb., Medical Superintendent of the Consumption Sanatoria of Scotland, Orphan Homes, and Colony for Epileptics, Bridge of Weir, to be Tuberculosis Officer for the County and Borough of Gloucester.

David C. Kirkhope, M.D. Glasg. (M.B., 1895), D.P.H. Camb., Assistant Medical Officer and Assistant Inspector of School Children to the Leyton Urban District Council, to be Medical Officer of Health for Tottenham Urban District Council.

Arthur Robertson, M.B., Ch.B.Glasg. (1905), D.P.H., to be Medical Officer of Health for Helensburgh, *vice* Wm. Little, M.D.Glasg., retired.

ROYAL FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW: TRIBUTE TO THE LATE DR. HILL.—At the November meeting of the Faculty the President, Dr. James A. Adams, made fitting allusion to the death of their clerk and legal adviser, Dr. Hill, and moved in terms of the following resolution, which was adopted :—

The Faculty desire to put on record the deep sense of the loss they have sustained by the death of Mr. William Henry Hill, LL.D., their clerk and legal adviser. For the long period of forty-nine years Dr. Hill had discharged these duties, having been elected joint clerk with his father in October, 1863, and sole clerk in 1872. In regard to the great care, skill, and efficiency with which he performed the duties of his office, these are well known to the Fellows. He was in many ways an ideal legal adviser and clerk. With the legal relations of the medical profession he had a wide and exact acquaintance; consequently, when any point was referred to him for his considered opinion he was fitted to give the best advice, which was expressed in clear, terse, and vigorous language. The death of Dr. Hill not only terminates his own appointment, but brings to an end a succession of appointments as clerk and legal adviser held by members of his family for the last hundred and fifty-five years. The first of them was that of Mr. James Hill, of Cartside, which was made on 7th February, 1757 ; that of his son, also James Hill, of Gartloch, terminated in 1791. Dr. Laurence Hill, of Barlanark, father of the late clerk, was elected in that year, and Dr. William Henry Hill in 1863. His half-brother, Mr. James M. Hill, was elected joint clerk with his father in February, 1846, and continued as such till his death shortly afterwards. To Miss Grahame, the niece of Dr. Hill, and the other relatives the Fellows of Faculty desire most respectfully to tender their sympathy in their bereavement.

WESTERN INFIRMARY: RETIREMENT OF MR. H. JOHNSTON.—Mr. Henry Johnston, who has been secretary and treasurer of the Western Infirmary, Glasgow, since the opening of the institution in 1874, having intimated to the directors his desire to retire, demitted office at the end of last month. Mr. Johnston took an active part in promoting the interests of the Infirmary, and has been associated with various movements for its extension and the expansion of its usefulness. When the institution was inaugurated funds were small, but it gradually gained the sympathy and support of the public. At the beginning 150 beds were provided. The number now is 600, and last year there were nearly 9,000 indoor patients. The annual expenditure is about £40,000. In recent years large sums have been subscribed by the public for the extension of the institution.

Among other appointments which Mr. Johnston holds are the secretaryship of the Hospital Sunday Fund and the secretaryship and treasurership of the Lady Hozier Home, Lanark. As secretary and treasurer of the Western Infirmary he is succeeded by his son, Mr. John Matheson Johnston, C.A.

UNIVERSITY OF TORONTO: OPENING ADDRESS AT THE FACULTY OF MEDICINE BY SIR HECTOR CAMERON.—The address delivered by Sir Hector Cameron at the opening of the session of the Medical Faculty of the University of Toronto appears in the November issue of *The Canadian Journal of Medicine and Surgery.* In his address, Sir Hector contrasts the condition in which the healing art is to-day with what it was when he was a student. The present is "a point of time in the history of the healing art full of good auspices and big with the promise of progress, because its work is now more and more becoming based upon sure and stable foundations." When he was a student the stethoscope and anæsthetics were comparatively recent; pathology, as a science, was only beginning to be cultivated; the microscope was in the hands of experts; and the subject of public health was in its infancy, and was neither known, practised, nor taught as we now understand it. Lastly, coming to surgical work, "every wound, whether accidental or made by the surgeon, with extremely few exceptions, discharged pus freely. . . . In every clinique Death held perpetual court." Nowadays the very word "hospitalism" has entirely dropped out of medical literature.

Sir Hector referred to the importance of a knowledge of biology, chemistry, and physics. Lister's work was founded on that of Pasteur, a chemist; *x*-ray photography is due to Professor Roentgen, a physicist; and Schaudinn, a biologist, discovered the long sought-for cause of syphilis.

He warned them that while they as students were qualified to observe facts, they were not yet qualified to generalise. Their duty was to acquire knowledge, but they would have subsequently to learn the mode of applying it. And here lies the essential difference between the teacher and the taught. In matters of opinion it is necessary for the tyro to take much upon trust, and it therefore "becomes the duty of the teacher, . . . where he holds convictions, to let them be heard with no uncertain sound."

In the struggle of life "something more is needed for success than accurate knowledge and wise skill. The practitioner must recognise that a high moral standard is required of him. . . . To devote himself to a daily and often self-denying personal service of the sick; to render that service truthfully, soberly, and chastely; to resist all temptations to self-advertisement and the depreciation of rivals—for the depreciation of others is only another form of self-approbation; to be silent in regard to much of what he sees and is told in the houses into which he enters; to be chivalrously regardful of the modesty of women, sympathetic with the easily aroused fears of little children, and patient with all manner of men: to feel on many an occasion much more anxiety than he shows; not to be untruthful to the sufferer from hopeless disease, and yet to remember, as Sir Thomas Browne, himself a physician, has said, that 'it is the heaviest stone that Melancholy can throw at a man to tell him that he is at the end of his being'—these, and many other difficult duties and acts of self-discipline like these, are incumbent upon every medical practitioner."

SCOTTISH RED CROSS UNIT.—In view of the need for medical aid to the wounded in the Balkans, the Red Cross Society have, during the past few weeks, sent out several ambulances. Towards the end of October the Scottish Branch decided to send out a unit from Scotland, and appeals for subscriptions were duly made. As a result, the Scottish unit was duly organised, and left Glasgow on 14th November for London *en route* for Servia.

The personnel of the unit numbered 18, including 3 medical officers, 3 dressers, 5 nursing orderlies, 5 general duty orderlies, 1 sergeant, and 1 cook. The medical officers of the unit are Major H. E. M. Douglas, V.C., D.S.O., R.A.M.C., commanding, and Drs. Rankin and Black.

Major Douglas, the commandant, took the Triple Qualification of the Scottish Licensing Bodies in 1898. He distinguished himself during the South African war by attending to wounded under fire after he himself had been wounded. For this service he received the D.S.O., and his gallantry was later still further rewarded by the V.C.

Both Drs. Rankin and Black are Glasgow graduates. Dr. Rankin was recently a Resident Assistant in the Western Infirmary, and Dr. Black is Assistant Resident Medical Officer in Stobhill Hospital. The dressers and some of the nursing orderlies are medical students, and all the members of the unit have been trained in ambulance and first-aid work.

Each man has a full personal equipment, with uniform, and in addition he has a brassard, haversack (fitted), mess tin (cavalry), water bottle, clasp knife, sweater (or knitted waistcoat), three flannel shirts, three pairs of socks, two pairs of drawers, one blanket, one waterproof sheet, first field dressing, and kit bag. It has been learned that there is a great scarcity of provisions at the front, and as a precaution the Scottish unit will go out with at least one month's supplies, and with extra blankets and extra medical comforts, this extra equipment costing £300.

The following is the equipment (medical and general) for a unit:—1 pair field medical panniers, 1 pair field surgical panniers, 1 field medical companion, 3 pairs surgical haversacks, 1 field fracture box, 1 reserve dressing box (including case with extra chloroform, &c.), 1 medical comfort pannier, 1 set "canteens" (A to H), 1 filter, 4 Union and 4 Red Cross flags, 2 camp kettles with contents, 4 stretchers, 50 brassards, 50 first field dressings, tabloids, sulphate of soda (for water bottles), 50 blankets.

NATIONAL INSURANCE: THE GOVERNMENT'S OFFER TO THE MEDICAL PROFESSION.—We referred last month (p. 362) to the recent financial proposals of the Chancellor in connection with the remuneration of the medical profession for services under the National Insurance Act. Following Mr. Lloyd George's proposals, the medical members of the Advisory Committee issued to the profession a pamphlet in which the matter is clearly put, and the pros and cons carefully considered.

The signatories no not presume to give advice. Their desire is merely to place the facts before the profession, and they ask for careful consideration of these facts. They conclude by asking the profession to consider whether, in view of the Government's recent offer, they would be wise to refuse to work the Act.

THE ADMINISTRATIVE TREATMENT OF TUBERCULOSIS.—In connection with the School of Social Study, Dr. A. K. Chalmers, the Medical Officer of Health for Glasgow, delivered on 1st November a lecture in the Political Economy Class-Room of the University, on the "The Administrative Treatment of Tuberculosis."

In the course of the lecture, Dr. Chalmers referred to recent legislation making pulmonary tuberculosis uniformly notifiable throughout Scotland. Meanwhile the National Health Insurance Act was passed, which put an altered complexion on the whole administrative outlook. The first principal change which it made was to abandon altogether the use of the word consumption, and the disease referred to throughout as tuberculosis, but as the tuberculosis of adults was mainly pulmonary tuberculosis or phthisis, the form of tuberculosis predominating among persons insured under the Act would be consumption. But sanatorium benefit provided by the Act might be extended by a resolution of the insurance committees to the dependants of insured persons or any group of them, and so the other forms of the disease, and particularly those which attack early life, come under its cognisance. A further notable difference must be mentioned because of the provision of what amounted to a grant in aid of any action taken by a local authority on the lines indicated in the Act. For example, as sanatorium benefit was confined to persons insured under the Act, financial provision was assumed to be made for it in terms of the Act itself. When at the discretion of an insurance committee, whose sanatorium benefit was extended to dependants, no additional sum was provided by the Act, the original sum provided for sanatorium benefit was available so far as it would go. Should any deficit, however, occur, the Treasury and the local authority might, in a manner provided by the Act, make good this deficit in equal proportions. It was obvious, however, that many groups of people would not at first, at any rate, come within the scope of the Act, and any administrative action which proposed to deal with a disease should become selective in this sense at least. The County Councils' Association in England made a representation in recent months to the Chancellor of the Exchequer, so that an additional sum would appear to have been indicated as likely to be supplied by the Treasury in order to meet the case of persons who were neither insured persons nor dependants of insured persons.

INSANITY IN GLASGOW: REPORT BY DR. CARSWELL.—Dr. John Carswell, Certifying Physician in Lunacy, in his annual report to the Parish Council of Glasgow, states that in the year ended 15th May, 1912, 1,138 cases were dealt with, 582 being males and 556 females. They were provided for thus: 333 were certified to be insane and were removed direct from their homes to the asylum; 242 were treated for a time in the observation wards and subsequently certified insane and removed to the asylum; in all, 575 patients were certified insane; 454 patients were treated in the observation wards and were subsequently discharged recovered or improved, or died; in all, 563 cases were not certified, which number includes 109 cases in which it was not necessary to remove these patients either to asylum or observation wards. Of the 575 cases certified insane, 422 were certified for the first time. This gives a rate of "occurring" insanity during 1911-12 of 73 per 100,000 of the population, and for the previous year it was 76·9 per 100,000. Although the numbers for the past year indicate a decreased occurrence of insanity compared with 1910-11, yet it has to be remembered that it is a comparison with the highest rate recorded. During the five years 1901-05 the average annual occurrence-rate was 68·6, and for the five years 1906-10 it was 71·5, while for the last two years it has been 76·9 and 73.

There are, however, considerations that modify the unfavourable impression created, which an analysis of the figures will reveal. During 1911-12 201 males and 221 females were certified insane for the first time. It is the lowest number of males since 1903, but it is the highest number of females recorded, and it is the first time since 1901 that the number of females has exceeded that of males. In 1901 the number of females was not unusual, but the number of males was exceptionally low, probably on account of the absence of men engaged in the South African war. This year, therefore, is quite exceptional in the number of females certified relative to the number of males. During the last three years the number of males has fluctuated, whereas the number of females has increased each year. But the increase among females is limited to cases occurring at ages over 25 and under 50, which suggests that it is due not to physical causes but to changes in administrative ideas and methods. Physical causes would have had their influence distributed over all age periods. It is found on examination that congenital defects, general paralysis, direct heredity, and cases of uncertain causation account for the excess of female cases this year. No doubt general paralysis is becoming more prevalent among females, but the increase in the number of congenitally defective persons sent to asylums is the most definite element. The attention that has been given within recent years to the care of the mentally deficient has resulted in an increased number of feeble-minded but not actively insane persons being transferred from poorhouses and prisons to asylums. An increase of this character cannot be viewed as indicative of an increase in the prevalence of insanity—it is merely an alteration in the mode of care.

The foregoing review of the figures of occurring insanity for the past twelve years in the light of the sex and age distribution and the causes of insanity justifies the following conclusions:—

1. That there has been no increased occurrence of insanity among either males or females at the developmental period of life—that is, at ages 15-30.

2. That there has been no increase among males, and this applies to all ages.

3. That there has been an increase among females at ages 25-50. The probable explanation of this increase is that public attention having been directed to the better care of mentally defective persons an increased number of females of this class have been sent to asylums.

Dr. Carswell goes on to show the distribution of insanity among the wards of the parish. On comparison of the insanity rates with the death-rate it is found—(*a*) that all the wards with a high occurrence-rate of insanity have also a death-rate above the mean for the whole city; and (*b*) that, with the exception of Dalmarnock, Mile-End, Whitevale, and Blackfriars, the wards that have a low occurrence-rate of insanity have also a death-rate below the mean for the whole city.

GLASGOW DISTRICT MENTAL HOSPITAL, GARTLOCH: FIFTEENTH ANNUAL REPORT.—From the annual report of the mental hospital at Gartloch, which we have just received, we learn that on 15th May, 1911, there were 782 on the register of the hospital, 410 men and 372 women. On 15th May, 1912, there were on the register 788, 417 men and 371 women, showing an increase of 6 this year on the total population of the hospital.

Two hundred and fifty-eight cases were admitted during the year, and 252 cases were discharged or died during the year. These last were made up as follows:—44 men and 41 women (85) were discharged recovered; 59 men and 47 women (106) died; 24 men and 37 women (61) were discharged relieved or not improved. Of the last group of 61, 17 were transferred to other Scottish asylums, 1 to an Irish asylum, 21 were discharged relieved to the care of relatives, 20 were boarded out with suitable guardians in country districts, and 2 were discharged on expiry of warrant. There were 1,040 cases under care during the year, and the average daily number of patients resident during the year was 785·8.

The admissions this year show a distinct falling off as compared with last year when they reached the maximum of 307. The character of the admissions from the point of view of recovery is very poor. Only 76 of the 258 admissions were first attacks of less than a year's duration, while 182 were ill over a year on admission, were congenital imbeciles, or were not first attacks. Of the admissions, 28 were cases of congenital defect or epilepsy; 17 were general paralytics; 43 were cases of dementia (organic, senile, or secondary), besides cases of paranoia and chronic delusional insanity whose recovery was hopeless.

Cases of hysterical insanity, troublesome and dangerous paranoiacs, and epileptics are being crowded closer together, more of the same type in the same ward, as the cases become more and more purely residual. This makes the wards much more troublesome than they used to be. Three or four irritable, excited, or excitable patients in one ward can be kept apart and calm to a large extent by the staff, but when the number of this type in a ward is trebled it becomes impossible to prevent friction and irritation and consequent noise and quarrelling. And in this way one patient may keep a whole ward in a turmoil, which is bad for both staff and patients. The only way to improve this is to increase the accommodation as well as the staff, so as to increase the amount of elbow room. The want most urgently felt just now is a male staffed bed ward for tubercular cases. There is at present a group of such cases which are not suitable for female care in the sanatorium, and yet which it is undesirable to have treated in the admission ward among the recoverable cases. The admission ward, being the only bed ward staffed by men, is the only place where dangerous tubercular cases can be treated. The desirability of a block for tubercular cases is strongly urged. The present sanatorium for tubercular cases is not so arranged as to be suitable for a male staff on the male side, but it is quite suitable as an infirmary for the increasing numbers of bed-ridden and semi bed-ridden senile cases, feeble epileptics, and general paralytics. Such a block as is suggested would at once relieve the immediate congestion in the wards, and would enable those undesirable infective cases to be properly segregated.

The recovery rate, as calculated on the 258 cases admitted, is 32·9 per cent, or 32·8 per cent on the male side, and 33·0 per cent on the female side. Dr. Parker thinks that this is largely caused in Glasgow, as he has noted in previous years, by the mental wards in Duke Street Hospital treating many of the transient and easily recoverable cases of insanity, and so very largely reducing the recovery rates of the Glasgow District Mental Hospitals.

Of the 61 cases discharged unrecovered, 21 were placed under the care of their relatives, and 20 were boarded in the country under charge of carefully selected guardians. Boarding out of suitable cases serves the good purpose of keeping down the asylum population and so saves expense of building, and undoubtedly in some cases the patients are happier in their cottage surroundings. It has the disadvantage, however, that the chronic cases left in the asylums are more purely residual cases, the troublesome, excited, noisy, impulsive, and destructive. These are accordingly more difficult to care for, and cost more, as they require a larger staff to care for them.

There were last year 106 deaths, a percentage on the average number resident of 13·4, or 14·1 per cent on the male side, and 12·7 per cent on the female side. Eighteen of the deaths were due to general paralysis, which again, as usual, has caused more deaths than any other single cause. Fifteen deaths were due to cerebral softenings or hæmorrhages. Sixteen to various forms of tubercular disease. Fourteen deaths were due to diseases of the lungs or pleuræ, and ten to diseases of the heart or blood-vessels.

There were 76 *post-mortem* examinations during the year—that is—in 71 per cent of the deaths a *post-mortem* examination was performed.

The general health of the hospital has been good throughout the year.

Syphilis is an increasingly prolific cause of insanity in the cases admitted here. No less than 24 cases were admitted in whom syphilis was apparently the cause of the insanity, and in other 16 (or 40 cases in all) syphilis was present as well as alcoholism. No doubt there is more an apparent than a real increase in the incidence of syphilis here as the increasing use of laboratory methods, like the Wassermann reaction for syphilis, enables us now to detect latent syphilis as formerly we could never have done. Alcohol as usual is apparently our most prolific determining cause of insanity. It is credited with being the main determining factor in the mental illness of 38 of the admissions, and in combination with syphilis in other 16 admissions, or 54 in all, a percentage of 20·9 of the cases admitted. This is a higher percentage than the two previous years, but they were the lowest ever recorded for Gartloch.

The influence of alcohol indirectly is as evident as ever this year. Of the cases admitted in whom a reliable history of the abuse or non-abuse of alcohol in the parents was got, 59·4 per cent had a history of parental abuse of alcohol, but if these cases are separated in two groups, namely, those above and those not above 26 years of age at the first attack of mental illness, we find that there is a history of parental abuse of alcohol in 84·3 per cent of those whose breakdown occurred before they had completed their twenty-sixth year, while in the case of those whose first breakdown took place above the age of 26 there is a history of parental abuse of alcohol in only 40 per cent.

Dr. Gilmour, the pathologist, and the other medical officers have been working on the incidence of syphilis amongst the cases as tested by laboratory methods. It is interesting to note here that, in a consecutive series of 75 female admissions, a percentage of 21 syphilitics was obtained, and in 54 consecutive male admissions a percentage of 35·8 syphilitics was got. This is a very striking percentage, and goes far to explain our large general paralytic population. The blood serum in 94 general paralytics (77 male and 17 female) gave positive results for syphilis except in one case; and this one gave a positive result with his cerebro-spinal fluid. The sera of 329 cases of insanity, other than general paralytics (156 females and 173 males), were examined, and 16·4 per cent (or 54 cases) gave a positive Wassermann reaction for syphilis. Twenty-three females were positive or 14·74 per cent, and 31 males were positive or 18 per cent.

During the year H.M. Commissioners (Drs. Marr and Macpherson) visited the hospital and reported in high terms on the efficiency with which the work of the institution was carried on.

THE MEDICAL AND DENTAL DEFENCE UNION OF SCOTLAND: TENTH ANNUAL REPORT.—The report for the year ending 8th August, 1912, has just been issued. From it we learn that the past year has been a successful one, the financial position is thoroughly sound, and a substantial addition has been made to the reserve fund.

There has been ample evidence during the year of the value of the services of the Union to a large number of members who have required advice and assistance in troublesome matters, and defence in threatened actions.

In the financial section of the report it is stated that the reserve fund amounts to £2,535, 6s. 5d. as compared with £845 at same date in 1907. In the latter year the ratio per member was 17s. 6d; at present it is £2, 1s. 8d. The Council state that this ratio is considerably higher than the comparative figures applicable to any similar society in Great Britain.

We would direct special attention to the indemnity scheme against damages for professional negligence, &c. A large number of members have taken advantage of the scheme, but its benefits are so evident that it cannot be too widely known.

Those interested in the work of the Union may obtain copies of the report on application to the secretary, Mr. W. Findlay, 155 St. Vincent Street.

THE NINTH INTERNATIONAL PHYSIOLOGICAL CONGRESS, GRONINGEN, 1913.—The date of this Congress is from 2nd to 6th September, 1913.

WAS SHAKESPEARE A SYPHILITIC?—In the debate[1] on syphilis at the Royal Society of Medicine many interesting and novel views were advanced, not the least arresting of which was the suggestion of Mr. Jonathan Hutchinson that Shakespeare himself suffered from syphilis.

"'Timon of Athens,'" says Mr. Hutchinson, "in which we find such an accurate and poignant picture of the effects of syphilis, was a late play (1608); as was also 'King Lear,' in which occurs the terrible description of the female sexual organs (iv, 6, 130 *et seq.*). Both plays seem written by a bitter misogynist. We know that Shakespeare, before he wrote them, passed through a period of grave mental and probably physical trial; we know, also, from his own statement in the 'Sonnets,' that some scandal was attached to his name. No one has offered a satisfactory explanation of these facts. I venture to suggest that it may be found in Shakespeare himself having suffered from syphilis."

Now, while it cannot be proved at this late date that Shakespeare did not suffer from syphilis, we believe that there is nothing in his works which can be construed into an avowal of this disease. Moreover, even had Shakespeare been a syphilitic, it seems to us that many excellent reasons existed why he should not make public confession of the fact.

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[1] *Proceedings of the Royal Society of Medicine*, Vol. v, No. 9 (Supplement), October, 1912.

And, while we feel that conclusiveness on this question is unattainable, we venture to think that the following considerations suggest—which is indeed the most we dare hope for—that Mr. Hutchinson has by no means proved his case.

In Shakespeare's time, and for some years afterwards, syphilis was regarded as a legitimate theme for the writer. Such Elizabethan dramatists as we can claim acquaintance with — Ben Jonson, Massinger, Beaumont and Fletcher, Marlowe, and Dekker, all made use of it. The Pox was a subject for the wit and the moralist, and afforded similes and tropes ready to hand and easy of comprehension by the people. Unless we have sadly misunderstood the innuendoes of certain biographers, all these dramatists did not 'scape shot-free, but that all were poxed is unthinkable. There is certainly more about syphilis in Shakespeare's plays than in those of any—indeed all—of the above-mentioned contemporaries; and Shakespeare writes more interestingly and humorously, and with greater knowledge and feeling, on this subject than the whole of them combined. But to conclude from this that he alone was touched, or that he suffered more severely or in a form more suitable for dramatic representation than his colleagues, or indeed that he was tainted at all, is surely to leave out of account altogether his imagination and art, and his infinite superiority to his fellows. To the mind of a Shakespeare the merest hint is sufficient: make-believe is his trade.

Shakespeare was profoundly interested in the subject of medicine, and it is a most remarkable fact that not one of his plays is devoid of medical allusions, which, for appropriateness and knowledge, mark him off from his dramatic rivals, and have made some critics to suspect a medical training. Need we wonder, then, that obvious or obscure reference to syphilis occurs in all but the following:—"King Richard II," "King Richard III," "The Merchant of Venice," "The Taming of the Shrew," "Macbeth," "Julius Cæsar," and "The Winter's Tale?"

With the single exception of "Timon of Athens" (1610?), the allusions to general medicine always exceed those to syphilis, but this play must not be regarded as an isolated novelty demanding some explanation apart from the others: it is but an exaggeration of what might be termed a habit of the author, who understood, as no one else had done, the artistic possibilities of this disease, and exploited them.

"I am Misanthropos," says Timon, but we cannot discover the slightest justification for Mr. Hutchinson calling him "bitter misogynist." All the false friends are males, as also are the parasitic poet, painter, jeweller, and merchant. There is nothing in the tragedy to suggest that woman played any part in Timon's disillusionment; indeed, she does not appear to have entered into his life at all. Phrynia and Timandra make their appeal to him as instruments of devastation—"This fell whore of thine hath in her more destruction than thy sword, for all her cherubin look." His terribly outspoken injunctions are urged without passion, and arouse almost no resentment on the part of the two courtesans. Against them Timon expresses no grudge, for are they not like himself, victims of man's ingratitude—"They love thee not that use thee"? In his affluent days Timon is princely in his munificence, and in the woods he is even more colossal in his ideas of vengeance: never puny, but always god-like rather than human. He does not remember particular instances of ingratitude or injury. Like a planetary plague he falls on the just and the unjust alike, and it would be quite out of keeping with the bigness of Shakespeare's conception of Timon to make him clamorously reminiscent of petty personal wrongs and syphilitic injuries. We marvel at this wonderfully realistic catalogue of picturesque signs and symptoms of syphilis, but never for a moment does it strike us that we are listening to a patient's plaint prompted by personal suffering.

"Troilus and Cressida," written 1602, is the next most syphilitic of the plays, and is specially remarkable for the fact that boneache is mentioned five times—twice by Thersites and thrice by Pandarus. Thersites, the scurrilous Grecian, not only curses and talks, but seems even to think in terms of syphilis. We acknowledge his great familiarity with the disease, but can detect nothing that convicts him of it. According to many authorities, Shakespeare, in Thersites, satirised the contemporary dramatist, Dekker; and, as there is good ground for believing this to be so, it is difficult to see where the point of Shakespeare's satire could be in making his enemy invoke by curses the very syphilitic manifestations that were crippling himself. Pandarus, on the other hand, speaks out of the fulness of his heart: the personal note is here unmistakable, but we cannot imagine that Shakespeare would care to identify himself, even through his sufferings, with that most despicable of characters—a pander, and it is significant that this broken old man is never once allowed to claim our sympathies, though constantly appealing to them.

Passing down the list of plays the next in syphilitic order is "King Henry IV (Pt. II)," written 1599. Falstaff is a victim of the disease, and has quite a lot to remark about it in an intimate, personal way, though ignoring its tragic possibilities. The fat knight jokes about his malady, as is his way with everything belonging to himself; and yet he manages to say in jest ("Henry IV (Pt. II)," ii, 4, 52-57) as terrible things about the female sexual organs as King Lear (1605) raved in his madness: which seems to us to detract from the significance that Mr. Hutchinson attaches to the remarks of the senile maniac. According as they suffer or not, the various characters who talk of syphilis speak personally or impersonally. Shakespeare, in short, can do with them and with us as he pleases, and as he finds it necessary or desirable for the purposes of his art; but always is their syphilitic talk natural to them, and never does it seem to be a mere excrescence, as would be the case were syphilis an obsession of the author.

"The key to the secret history of the 'Sonnets' has been lost," but we cannot think that Mr. Hutchinson supplies it. It must have been plain to Shakespeare's contemporaries what is so enigmatic to us, and we feel quite certain that, if Shakespeare had here paraded himself before them as a burnt lover, he would have been made to smart for it through innumerable satires, and yet, so far as we are aware, none such exist. Man's ingratitude and woman's faithlessness are themes that the poet may treat without loss of dignity and respect, but for any poet to complain that he has burnt himself in love is simply to invite ridicule. The actual date of composition of the "Sonnets" is uncertain, but if we take (*circa*) 1595-(*circa*) 1598, it will be found that this corresponds to the period of production of three plays comparatively devoid of syphilis—"The Taming of the Shrew," "Romeo and Juliet," and "King Henry IV (Pt. I)."

If the syphilis in "Timon of Athens" be really personal history, then we should expect by arranging the plays chronologically to be able to trace the evolution of the disease in question, yet such we believe cannot be done. Further, if Mr. Hutchinson's line of argument be followed to its logical conclusion, we must infer that, in addition to syphilis, Shakespeare suffered from suppurating bubo (Winchester goose), soft chancre ("Hamlet," iv, 1, 21-28), and repeated attacks of gonorrhœa (burning). Now, while the contracting of syphilis need not necessarily imply moral declension, a record such as we have deduced is only possible to the utterly careless and profligate—a class to which we cannot think the great dramatist belonged.

Though Shakespeare alludes in "Timon of Athens" to syphilis cracking the lawyer's voice, and making the priest hoarse, it is surely remarkable that there is no reference anywhere to the disability such a misfortune might cause the actor; and, as pointed out by Sir Henry Morris, "there is nothing in the portraits of the dramatist, nor, so far as we know, was there anything in the voice of the actor, to suggest that he was the subject of facial and laryngeal syphilis, so realistically described by him." Not only does Shakespeare depict what he probably never suffered from, but he graphically portrays a syphilitic manifestation, which he could only have been cognisant of in himself had he, like the late Sir W. T. Gairdner, assisted at his own *post-mortem* examination; we refer to Thersites' designation of the gummatous liver as "dirt-rotten," a description obviously dependent on imagination, or information derived from medical books or friends.

In the plays there is frequent mention of treatment by means of baths and diet, but no reference is made to mercury, sarsaparilla, or guaiacum; and we are not entitled to infer, as some commentators would have us do, that the latter were necessarily included in the former. Shakespeare, if a victim of the disease, could hardly have escaped mercurialisation with all its attendant horrors, making the cure much worse than the disease itself, yet we search the plays in vain for any account of such adventitious suffering. Mrs. Overdone, it is true, in "Measure for Measure" (i, ii), declares—"Thus, what with the war, what with the sweat, what with the gallows, and what with poverty I am custom-shrunk:" but the late Dr. Moyes, of Largs, in his *Medicine in Shakespeare*, was of opinion that "sweat" here means the "sweating sickness" or perhaps ague.

There are other more general considerations, which cannot be discussed in detail here, but which must occur to our readers and influence them in coming to a decision. Thus, our own knowledge of books and writers has led us to believe that the best authors, no matter how frank they may appear to us to be, are, as a matter of fact, remarkably reticent about themselves and their own affairs, and very specially so concerning diseases that have earned the epithet of "shameful." The "makar" has so many *Doppel-gängers* and familiars, his imagination is so vivid and rich, and his sympathies are so wide, that his own self ceases to be so absorbingly interesting to him as it is to most of us, and comes to play a part of quite secondary importance in his thoughts and outlook; indeed, we are of opinion that engrossment in the preservation and study of one's *ego* or *moi* is a sure stigma of degeneration, and can only lead to disaster, more or less comparable to what befell *Le Disciple* of Paul Bourget. Besides, by making Falstaff declare his roguish intention of turning diseases to commodity, and by holding him up to ridicule for so doing, Shakespeare for ever locked the door on any such procedure by himself.

MEETINGS OF SOCIETIES.

MEDICO-CHIRURGICAL SOCIETY OF GLASGOW.

Session 1912-1913.

Meeting I.—4th October, 1912.

The President, Dr. A. Freeland Fergus, *in the Chair.*

I.—A SERIES OF CASES OF PARALYSIS TREATED BY OPERATION.

By Professor Robert Kennedy.

[Abstract.]

1. A child, aged 4 years, who, when 2 months old, was operated on for a birth paralysis affecting the whole of the left arm. The lesion found was a band of cicatricial tissue encircling the junction of the fourth and fifth trunks of the brachial plexus. The child had now a very satisfactory and useful arm.

2. A man, aged 30 years, in whom a dislocation of the left shoulder (in December, 1911) was followed by paralysis of the arm. At the operation in April, 1912, the trunks of the brachial plexus were freed from cicatricial adhesions.

Function was now practically restored, and the arm, which had been much wasted, measured only slightly less than the other.

3. A man, aged 32 years, who, in November, 1911, sustained a fracture of the vault of the skull on the left side, followed by paralysis of the right arm. In June, 1912, a cicatrix and some spicules of bone were removed from the cerebral cortex, and within twenty-four hours power of voluntary movement was restored.

4. A child, aged 7 years, who, from the age of 1 year, had had paralysis of the right leg and foot, resulting from an acute anterior poliomyelitis. The operation of tendon-grafting had given the child a perfectly satisfactory limb.

II.—CASE OF SCLERODERMIA, WITH CALCAREOUS DEPOSITS IN THE SUBCUTANEOUS TISSUES OF THE FINGERS.

By Professor W. K. Hunter.

Professor Hunter's communication will be published as an original article in a future issue of the *Journal*.

III.—CASE OF INFANTILE SPLENIC ANÆMIA OF THE APLASTIC TYPE.

By Professor W. K. Hunter.

This case I have to bring to your notice had many of the features of a typical infantile splenic anæmia of the von Jaksch's type. It differed, however, from that condition, not only in there being no increase in the number of white corpuscles, but also in that there was a very great diminution, both relative and absolute, of the polynuclear cells.

The patient, a child of 2½ years, was admitted to the Glasgow Royal Infirmary on 4th September, 1912. The history was to the effect that she was born in Malta, of healthy parents, and at birth seemed perfectly healthy. She was fed on the breast till 10 months old, and, when weaned, on milk and milk foods. She left Malta at 11 months, and since then had lived most of the time in Ireland. She remained in good health till she was 1 year and 8 months, when sickness and vomiting set in, and this continued more or less for three or four months. There was also profuse sweating, especially at nights. About March or April of this year the child complained of pain in the abdomen, and the abdomen was then noted to be swollen. In May the ears began to discharge blood and pus, and for several months there had been, from time to time, some slight bleeding from the nose. On 3rd September the epistaxis was rather profuse, and continued for some hours. Five weeks before admission to hospital swelling in the feet and legs set in.

The father and mother, as well as one brother and four sisters, are all alive and well.

On admission to the ward, the child was seen to be considerably emaciated, with the feet and legs very œdematous. There were no signs of rickets, and the teeth were in good condition. The skin and mucous membranes were exceedingly pale, but only one or two purpuric spots could be found. The heart and lungs showed no abnormality. The abdomen was slightly distended, and both liver and spleen were much enlarged—the liver extending downwards in the nipple line to nearly the level of the umbilicus, and the spleen to the anterior superior spine. The anterior margin of the spleen reached to within an inch of the middle line.

The blood count was as follows:—

Red corpuscles, ...	1,460,000 per c.mm.
Hæmoglobin, ...	30 per cent.
White corpuscles, ...	4,400 per c.mm.

Of the white cells, 13 per cent were polynuclears, 5·5 per cent large lymphocytes and transitionals, and 81·5 per cent small lymphocytes.

The vast majority of the mononuclear cells were typical small lymphocytes. Of the larger lymphocytes, some had their nuclei divided into two or more portions. A considerable number of the polynuclear cells seemed to have the nucleus less broken up than is normal, and in this respect they seemed to have a closer affinity than usual to the transitional cell.

The red corpuscles showed considerable variation in size, a proportion being large enough to be regarded as megalocytes, and a considerable proportion showed polychromatic staining. There was practically no poikilocytosis. Three nucleated red corpuscles were found in counting 400 white cells, and all of them were regarded as normoblasts.

For the first three days after admission the child took milk well, and seemed to be improving. On the afternoon of 7th September, however, there was some vomiting, and the vomitus contained blood. Later on in the day the child became rapidly weaker; it was thought to be possibly due to some internal hæmorrhage. She died at 9 P.M. During the four days in hospital the temperature ranged from 99·4° to 101°, and the pulse from 140 to 160.

A *post-mortem* examination was not granted.

The blood in this case, then, it will be seen, differs considerably from that met with in the typical von Jaksch's splenic anæmia, in which there is a definite leucocytosis. There is, however, a group of infantile splenic anæmias in which the blood count is very similar to that in the adult type of splenic anæmia, in which, indeed, there is no leucocytosis, but a marked leucopenia. I have recorded[1] two cases of this sort, but in neither was the proportion of polynuclear cells below 45 per cent of all the white cells. The great diminution in the polynuclear cells (572 per c.mm.) in the case I have just recorded, associated with the comparative increase (81·5 per cent) though absolute diminution (3,586 per c.mm.) of lymphocytes, suggests the blood count met with in aplastic anæmia. The hæmorrhages, too, are such as are met with in this anæmia. As far as I know, however, there is seldom any considerable splenic enlargement in aplastic anæmia.

The fact that the child was born in Malta, and lived there for eleven months, raised the question of the case being possibly one of kala-azar, for several cases of this disease occurring in infants have been recorded from Naples and Tunis. It is most unfortunate, therefore, that the spleen could not be examined for the Leishman-Donovan body, but a *post-mortem* was most obstinately refused, and splenic puncture had not been carried out during life. The possibility of the case being one of aleukæmic lymphatic leukæmia has also occurred to me, but the absence of any enlargement of lymphatic glands makes such a diagnosis most improbable.

IV.—TWO UNUSUAL CASES OF SPINA BIFIDA.

BY MR. G. H. EDINGTON.

Mr. Edington's communication will be published as an original article in a future issue of the *Journal.*

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[1] "Infantile Splenic Anæmia, with Notes of Ten Cases," *The Lancet*, 23rd January, 1909.

OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.

SESSION 1912-1913.

MEETING I.—23RD OCTOBER, 1912.

The President, DR. JOHN LINDSAY, *in the Chair.*

I.—SPECIMENS.

A. BY DR. A. W. RUSSELL.

1. Three ovarian cysts obtained from recent cases that illustrated the difficulties that are sometimes encountered, the size that may still be reached even in these days of improved methods of diagnosis, and the absence of complications during convalescence even when there were extensive adhesions, as shown by the temperature charts and the history of the cases:—

(*a*) C. M'W., aged 21, dysmenorrhœa for eight months; painful micturition and defæcation; pregnancy suspected when abdominal swelling began although menstruation remained regular; greatest abdominal circumference, 36 in. Cyst of left ovary was tapped and removed through a small abdominal incision admitting only two or three fingers. Right ovary cystic, and about two-thirds of it removed. Uncomplicated recovery.

(*b*) Mrs. T., aged 23, married ten months; menstruation always regular, but more frequent and abundant during last three months; pain on right side five months ago, and abdominal swelling observed three months ago, with very rapid growth during the last two months; sent to Maternity Hospital as a complicated pregnancy, and transferred to Royal Samaritan Hospital. General appearance of distress, and abdomen larger than an ordinary full-time pregnancy; greatest circumference, 38½ in.; heart displaced upwards. Abdominal incision to umbilicus; universal adhesions of left ovarian cyst to abdominal wall, omentum, bowel, and pelvic organs; tumour more cystic behind, and ruptured in removal, discharging very thick, sticky contents which were difficult to wash out of the abdominal cavity. No drainage. Right ovary and tube normal. Uncomplicated recovery.

(*c*) Mrs. D., aged 51, married twenty-nine years; seven children; menopause five years ago. Swelling on right side known to exist for two years; now reaching above the umbilicus. Small abdominal incision required to be enlarged, as cyst contents refused to flow through wide glass tube. Left ovary and tube small, and undergoing normal atrophy. Uncomplicated recovery.

2. Soft cancer of uterine body which had extended at some parts close to the peritoneum.

Mrs. R., aged 65, married forty-eight years and a widow for last eleven years; one child forty years ago and two abortions; menopause eighteen to twenty years ago. Blood-stained discharge for one and a half years, "watery during the night, with blood during the day;" and for two years previously only slight leucorrhœa. No loss of flesh. Vagina and cervix atrophic. Malodorous discharge from cervix. Abdominal pan-hysterectomy. Abdominal wound was infected at one part, but on discharge of pus healed up strongly. The special interest of the specimen lay (*a*) in the wide extension of the cancer through the myometrium, even in one place within a millimetre of the peritoneum, without penetrating it; (*b*) in the small subserous nodules, one at least of them being a fibroid; and (*c*) in the small fibroid in the upper part of the cervix. The uterus weighed 1½ lb. Microscopic sections were also shown.

B. BY DR. W. D. MACFARLANE, JUN.

1. Uterus with fibroids undergoing necrotic changes, two sections of which were shown.

2. Uterus with fibroids impacted in pelvis, causing bladder and rectal symptoms.

3. Papilliferous ovarian cyst which had given rise to no symptoms. No histological evidence of malignancy.

4. Gonorrhœal salpingo-oöphoritis.

5. Uterus with submucous fibroid, removed *post-mortem*. Death took place from anæmia and suppurative nephritis.

C. BY DR. W. RITCHIE.

1. Uterus with fibroids.

2. Tubercular salpingitis. Peritoneum was found studded with tubercles. Hysterectomy was done on account of fibroids.

II.—PRESIDENTIAL ADDRESS: THE OVUM IN RELATION TO STERILITY AND ABORTION.

By Dr. John Lindsay.

Dr. Lindsay's communication will be published as an original article in our next issue (January, 1913).

The President was thanked for his address by the Past President, *Dr. A. W. Russell*, and this was seconded by *Dr. Jardine*, who joined with Dr. Russell in eulogising the excellent scientific work of Dr. Lindsay.

Dr. Lindsay replied.

III.—REPORT ON VISIT AS DELEGATE TO THE INTERNATIONAL OBSTETRICAL AND GYNÆCOLOGICAL CONGRESS IN BERLIN.

By Dr. A. W. Russell.

Dr. Russell reported that he had attended the meetings of the International Obstetrical and Gynæcological Congress in Berlin in September as the delegate of the Society. There were not more than twelve or fifteen British representatives, and four of them were from Scotland. Dr. MacNaughton Jones presented the report of British opinions in the discussion on the surgery of the peritoneum. The assemblage of some 700 specialists in our subjects at the chief sittings of the Congress in the Herrenhaus (House of Lords) was an imposing sight. Apart from the chief discussions, the interminable series of miscellaneous papers, and the remarkable practical demonstrations of specimens and patients on the last day of the Congress by means of epidiascope and cinematograph, there was a most interesting exhibition of obstetrical and gynæcological instruments and appliances, hospital furnishings, pathological specimens, colour photographs of microscopic sections, and models for clinical teaching. Every morning from 7 to 9, series of operations were arranged by a number of the surgeons at the various hospital and private clinics: and the President himself, Dr. Bumm, and Drs. Franz, Dührssen, Mackenrodt, Sigwart, Strassmann, Liepmann, &c., could be seen performing the more important abdominal and vaginal operations. There were crowds of eager onlookers.

Notable features of the Congress were the magnificent hospitality extended to the visitors by the medical societies, the city authorities, and the President himself in nightly receptions or dinners; a never-to-be-forgotten performance of Beethoven's *Fidelio* at the Opera House: and an excursion to the Havel Lakes and Potsdam.

REVIEWS.

A Manual of Immunity for Students and Practitioners. By ELIZABETH T. FRASER, M.D.Glasg. Glasgow: James MacLehose & Sons. 1912.

DR. ELIZABETH T. FRASER is a Beit Research Fellow and a well-known Glasgow graduate, almost the whole of whose medical life has been spent in bacteriological laboratories—teaching and being taught. She has thus a thoroughly practical knowledge of the problems that confront the worker, and is not only intimately acquainted with what we may term the higher culture and criticism through association with expert compeers, but, in order to answer satisfactorily the ingenuously disconcerting questions of ignorant enquirers, has been compelled to formulate very carefully and intelligibly everything that she knows or believes. We see all this reflected in the *Manual* before us, where the author handles in a sympathetic, though highly capable, manner the want of knowledge of the student and practitioner, telling her story most interestingly and lucidly, as well as with a literary style of considerable elegance, and a pretty wit that, unlike the dyer's hand, refuses to be subdued to what it works in, but will out.

The book opens with a "Historical survey" of the science of immunity, the progress of events being traced in such a way as to place before the reader in their true perspective the various conflicting theories and observations. Then come "The body fluids as a factor in immunity," with detailed consideration of the properties, mode of action, clinical importance, and interaction of antitoxins, agglutinins, precipitins, bacteriolysins, complement, hæmolysins, opsonins, and bacteriotropins. It is interesting to note that Dr. Fraser is not an enthusiastic opsonist, but ranks herself with those who believe that vaccine therapy can be safely and successfully employed without the aid of opsonic-index determinations.

Next "The body cell as a factor in immunity" is discussed. For some time past it has been the fashion in certain quarters to attribute to the phagocyte quite a subsidiary importance, but Dr. Fraser strongly champions the views of Metchnikoff, and emphatically insists that "whether we talk of opsonins and bacteriotropins or of aggressins and 'resistant races' of bacteria, we are all the time admitting that the important factor is ultimately the phagocyte."

"The micro-organism as a factor in immunity" introduces considerations which we have hitherto rather ignored, and which further complicate the problems confronting the immunisator.

The author next details the immunity reactions employed for therapeutic ends and for diagnostic purposes. Considerable space is devoted to the Wassermann reaction, the method described and recommended here being that of Dr. Boas of the Serum Institute, Copenhagen. We are somewhat surprised to find that no reference is made at this place to the agglutinin test for Malta fever, which we had understood to be thoroughly reliable. It is disappointing to learn that the application of the complement-fixation test to the diagnosis of tuberculosis, a subject on which Dr. Fraser is an acknowledged authority, has, so far, afforded but very unsatisfactory results.

"Anaphylaxis" is then treated of, and special attention ought to be directed to the fact, mentioned by the author, that this condition may be brought about by the injection of bacteria and bacterial extracts. We ourselves have seen a case where, during a course of treatment with a mixed vaccine of lung cocci, there occurred on one occasion angioneurotic œdema, pruritus, and arthritic pains in hands and forearms, which could be attributed to no other cause. Dr. Fraser speaks of the symptoms of the serum disease as being "generally but trivial," but we have had the misfortune to see them very alarming indeed. And when, during the presence of anaphylactic phenomena, it has been deemed necessary to repeat the serum (anti-diphtheritic), we have known rectal injections to be both safe and efficient.

In an "Appendix" a short account is given of Ehrlich's side-chain theory, and all who in bygone days cherished his marvellous, yet satisfying, diagrams, must read with regret Dr. Fraser's approval of Andrewe's designation—"transcendental pseudo-chemistry." In this same section, under the heading of "Chemotherapy," salvarsan and its allies are discussed. Here and there throughout her work the author has occasion to point out—though never disdainfully—the discrepancy that exists between the hopes and practice of the clinician and the knowledge of the laboratory. It is certainly difficult to reconcile Ehrlich's view that all spirochætes not killed off by one or two—but why two?—large doses of "606" are rendered resistant or even invulnerable, with the procedure recommended by M'Donagh of giving four to seven injections in the secondary stage and from five to nine in the tertiary.

A glossary, index, and list of authors complete the work, which must be regarded as an addition to Glasgow's notable medical books.

We have the greatest confidence in recommending this *Manual* to the student and practitioner as a sound guide through the slough of immunity. All who consider themselves hopelessly bogged will be here shown a way out. A working knowledge of this subject is nowadays indispensable to the doctor, and will not only lead to better and saner treatment, but will prevent the clinician from being so entirely at the mercy of the enterprising drug-vendor.

Perfect Health for Women and Children. By ELIZABETH SLOAN CHESSER, M.B., Ch.B. London: Methuen & Co., Limited. 1912.

No one who takes up *Perfect Health for Women and Children* need have the slightest fear of being bored, for the author is not only the possessor of an individual literary style, but has the rare gift of conveying instruction interestingly. There is, moreover, in all she says a compelling charm that sweeps one on, obstructing argument being cleared in a steeplechasing fashion that is most exhilarating, more especially when the birthright of health and the disgrace of disease is up. This should prove a splendid tonic to all the Mrs. Wititterlys who can be induced to read it; and a mere glance at the chapter on "Nerves" should prevent the husbands of these same ladies from being unduly elated when their doctors tell them: "My dear fellow, be proud of that woman, make much of her; she is an ornament to the fashionable world and to you. Her complaint is soul!"

The first third of the book is devoted to a consideration of "How to keep healthy," and we have nothing but praise for the tactful, arresting, and helpful way in which Dr. Chesser discusses general principles, which every intelligent woman ought to be able to thoroughly understand and act up to. The second third is taken up with a description of "Sick nursing in the home," and contains just what the amateur nurse wants to know about the hygiene of the sick-room, sickroom remedies, the management of baths and beds and other means to make the patient comfortable, sickroom diet, hints about nursing, and first aid in the home. "Common ailments and how to deal with them" are next discussed. It is here that most writers, in their anxiety for completeness, come to grief; but the present author strikes a happy mean, telling her readers no more than is good for them. We would venture to suggest, however, that in future editions exophthalmic goitre might very well be left out, as also the remark under convulsions—"If the gums are swollen and hot they may be lanced," which can do nothing but shake the confidence of the fond mother in somebody. A glossary of medical terms and an index round off the whole.

There is nothing in this work to foster morbidness and introspection, nor is the slightest encouragement given to drugging of oneself or one's children. Drugs, indeed, are but rarely mentioned, for the object of Dr. Chesser is not to make of her sex household physicians, but to show them how to keep themselves and their children fit by strict attention to Nature's laws; at the same time pointing out the danger of delay in getting expert advice when illness really threatens, and the stupidity of dabbling in what they cannot possibly know anything about; though describing lucidly and concisely the means that may be employed in an emergency till skilled help arrives.

Every woman ought to possess a simple and yet comprehensive book on health and hygiene, for these are matters that do not come by instinct any more than does the making of poultices and fomentations. A work like the present, which puts health and not disease in the forefront, is a great improvement on the class of which Buchan's *Domestic Medicine* may be taken as the old-fashioned type—a volume, be it remembered by scoffers at this form of literature, that the poet Burns ordered along with "Shakespeare" and other immortal productions. That this book is by a woman is an additional advantage, for we get at first hand her views with regard to her children and her home, subjects that only she can discuss sympathetically and satisfactorily. In these days when woman is rarely allowed to forget her sex, it is quite a pleasure to discover that there is nothing here about the peculiar diseases from which she suffers. We have the greatest confidence in recommending this work to all who take their wifehood and motherhood seriously, since it cannot do otherwise than make for healthier and happier homes, and since it is devoid of the sort of information that makes woman a terror to her immediate circle and a nuisance to her doctors.

In its own way this is another triumph for the Glasgow school. The author may be better known to some of our readers under her maiden name of Miss Elizabeth Sloan, daughter of our townsman, Dr. Samuel Sloan, who is, we understand, responsible for some valuable suggestions.

Herself: Talks with Women concerning Themselves.
Truths: Talks with a Boy concerning Himself.
Confidences: Talks with a Young Girl concerning Herself.
False Modesty. Chicago: Forbes & Co. 1912.

THE above four little books form a series by Dr. E. B. Lowry, and call only for a general description.

It must be admitted at once that one of the greatest difficulties of the present day is to decide when and in what manner it is judicious to impart knowledge to both sexes dealing with their sexual relations. That much harm and misery in this country are due to ignorance of these matters is only too true, and that some remedy is desirable is also true; whether the present series can be described as a remedy is, however, by no means certain.

Parents undoubtedly shrink from the task of enlightening their children with regard to the sexual functions, and knowledge acquired from any other source is apt to be sullied by side issues which are neither necessary nor desirable when dealing with the young.

If Dr. Lowry's books are read as the author intends, they will be found helpful in every way, but read with a prurient mind they may do actual harm. Certainly the father or mother may be well advised, when the proper time comes, to give one of the series to the daughter about to be married, or to the younger son or daughter who has arrived at the age at which the information referred to can be given with safety and benefit.

No fault can be found with the subject matter: Dr. Lowry has performed a difficult task extremely well. All the books, however, are really for the private desk of the recipient, and therein is one of the dangers, as it would be a catastrophe indeed for children say, from 10 to 13 years of age, to peruse them.

It is greatly to be feared that in the present age, with the age at marriage steadily rising, voluntary limitation of families, and as a consequence increase of illegitimate gratification of the sexual impulse, any attempt to secure a perfectly chaste community is foredoomed to failure. Even then, however, a knowledge such as is given by Dr. Lowry cannot but be helpful, and more especially so in the case of the young of both sexes in what may be termed the "intermediate" stage, who often sin unknowingly, and whose lives may ever after be blasted by indiscretions which appear at the time to be of little moment.

Used with discrimination, Dr. Lowry's books may be recommended to the consideration of parents, who may find in them a method of imparting just the requisite amount of knowledge without the many difficulties which would arise from direct questions which are always difficult to answer fully.

Dr. Lowry incidentally mentions one thing which educational authorities should take more to heart than they have done in the past, and that is the instruction of children before they actually leave school in the main facts of human anatomy and physiology. This should be as essential a part of every complete school curriculum as, for example, arithmetic itself.

The Journal of Hygiene. Plague Supplement I. Sixth Report of Plague Investigations in India. Cambridge: The University Press. 1912.

THIS supplement has a melancholy interest for Glasgow readers, as it begins with a sketch of the life of the late Major George Lamb, a well-known and distinguished student of Glasgow University, whose brilliant career was cut short while he was still in the prime of life. An excellent photograph of Major Lamb accompanies the appreciative notice.

The remainder of the supplement presents a series of investigations on plague, mainly with regard to the parts played in the dissemination of the disease by rats and rat fleas. To a certain extent the results of these investigations have already received due notice and have been embodied in the most recent works dealing with plague. A considerable portion of the supplement is taken up with statistical tables, which have, naturally, to be studied very carefully in conjunction with the conclusions to which they point. Near the end are fourteen excellent photographic plates showing the general conditions in the various districts investigated.

The supplement concludes with a chapter on the breeding of *mus rattus* in captivity.

A Study and Research on the Forms and Origin of Life, Species, and Neoplasms. By CHARLES FREDERICK KNIGHT, M.D. Edinburgh: John Currie. 1912.

DR. KNIGHT, in this duodecimo pamphlet of eleven pages, propounds a large number of most disconcerting, ultra-Schäferian conundrums, to which we regret we cannot offer him any solution. A safe comment might be that of Mrs. Harris to Sairey Gamp—"Sich is life. Vich likeways is the hend of all things!"

The Etiology, Diagnosis, and Prophylaxis of Pulmonary Phthisis, considered chiefly from the Public Health Point of View; with an Appendix on the Tuberculin Treatment of the Disease. By ALFRED HARRIS, M.B., Ch.B.Vict., D.P.H. Camb. Bristol: John Wright & Sons, Limited. 1912.

THIS is an excellent *résumé* of our present knowledge concerning those aspects of pulmonary phthisis detailed in the above title. Dr. Harris has had a wide and varied experience of this malady, and consequently is in a position to express an individual opinion that is worth listening to. Of special interest is the view here given forth that, despite the great usefulness of sanatoria in limiting the spread of disease, probably tuberculosis dispensaries will take their place; "for these institutions are run much more cheaply, and can exert the same educational influence as sanatoria. In addition, open-air shelters can be erected at home." The writer speaks highly of tuberculin (P.T.O.), which he has employed with benefit in non-pyrexial cases even at an advanced stage.

ABSTRACTS FROM CURRENT MEDICAL LITERATURE.

EDITED BY ROY F. YOUNG, M.B., B.C.

MEDICINE.

The Experimental Proof of the Identity of Brill's Disease and Typhus Fever. By John F. Anderson and Joseph Goldberger (*New York Medical Journal*).—In April, 1910, Dr. Brill published an article in the *Journal of American Sciences* based on 221 cases of what he called "an acute infectious disease of unknown origin."

This he conclusively showed could be distinguished from typhoid; and also attempted to distinguish it from typhus, on account of its lack of virulence—not having noted one fatal case—though he stated at the same time that from the clinical standpoint alone no differentiation was possible.

In August, 1911, Dr. Brill published another article in the same journal, in which he reported thirty-four new cases, including one death. In this paper he also described three inoculation experiments in monkeys, in support of his contention that this condition was not typhus fever.

In the first two of these experiments 5 c.c. of the blood from patients, in their sixth and seventh day of illness, were injected intraperitoneally into two rhesus monkeys, and the animals were carefully observed for a month.

Neither of them showed any signs of illness, and their temperatures, which were taken regularly, did not show any variation from those of two non-inoculated monkeys which were kept as controls under the same conditions.

The third experiment was similar, except that the material for the inoculation was taken from an autopsy eighteen hours after death of a patient in the tenth day of illness.

Drs. Anderson and Goldberger, who had been studying typhus fever in Mexico city, were at first of the opinion that these experiments were conclusive, and that Dr. Brill was fully justified in his conclusions. On a more critical examination, however, considering how susceptible monkeys are to inoculation with typhus, they realised that the dose given to the first two monkeys was so small that, as the case was acknowledgedly a mild one and the blood therefore of low virulence, these factors might account for the negative results obtained; while in the third case the monkey had only been watched, and the symptoms of illness in a monkey are so slight that it was quite possible that the reaction had been missed through lack of observation of the temperature.

They therefore took the first opportunity of testing these results. In September, 1911, thanks to the kindness of Dr. Brill and his colleague, Dr. Cassel, they saw their first case. The patient was a Russian, and was in the seventh day of his illness when they first got blood for inoculation. This was inoculated into two rhesus monkeys; on the following day blood was again taken and inoculated into two other monkeys. Both the latter animals died prematurely and need not be considered. Of the former pair, one gave no indication of any reaction; in the other, however, a fever developed after a period of ten days. This fever lasted thirteen days, and was followed by a relapse which terminated fatally. At the necropsy there was no gross lesion. On the sixth day of this monkey's fever, blood was drawn from the heart by puncture and inoculated into two fresh monkeys. Both of these animals developed a definite febrile reaction, and from that time the observers were able to pass the infection on through fifteen generations of monkeys, over a period of six months.

At the time when the first passage was made from the original monkey blood was also put into nutrient medium, but no growth resulted.

Of the three other cases which Drs. Anderson and Goldberger saw, two furnished blood for inoculation, in one of the cases with a positive and in the other a negative result.

The results of these experiments were so similar to those which they were accustomed to see in monkeys inoculated with typhus, that Drs. Anderson and Goldberger determined to test the relationship between the two diseases by a series of cross immunity tests. Dr. Anderson therefore proceeded to Mexico City and took with him several of the animals which had recovered from an attack of Brill's disease, to test their susceptibility to typhus; and sent back to Washington some monkeys which had recovered from an attack of that disease, to have a similar test done with relation to Brill's disease.

The results of these experiments were as follows: In the seven Brill's immune monkeys inoculated with typhus not one showed any reaction, while in the nine healthy controls not one failed to take typhus. Of the ten typhus immune animals not one developed Brill's disease, while of the eight monkeys inoculated as controls not one failed to react. They believe that these experiments prove that an attack of Mexican typhus confers immunity to infection by Brill's disease, and, conversely, that an attack of Brill's disease confers immunity to further infection by typhus. In other words, that Brill's disease and typhus are the same condition.

If these conclusions are correct, and there is no reason to doubt them, then typhus fever has been endemic in New York and other large American and Canadian cities for a number of years. And the writers add that there is reason to suspect that what is true of Canada and the United States is also true of Europe. They admit that many will be unwilling to admit this, but think that when it is realised how often benign forms of common infectious troubles are overlooked, it should occasion no surprise that benign forms of a disease, usually thought of as an exotic plague, should fail of recognition. In support of this contention, they quote Friedman's statement, when talking of typhus in Finland and the Baltic provinces, that "sporadic cases occurring in large cities, running a mild course and consequently not accompanied by any mortality, are usually not recognised." They conclude that the classical picture of typhus, as the great masters of medicine depicted it, is as incomplete as that of smallpox or yellow fever was, and that in the future we must carry in our minds not only the grave and fatal forms depicted by our fathers, but the mild and benign form so carefully and patiently studied by Brill.

Drs. Anderson and Goldberger conclude their article by reporting another series of inoculation experiments, in which they confirmed the findings of Nicolle, Comte, and Conseil as regards the transmission of typhus by the bites of the body-louse. Drs. Anderson and Goldberger then went a step further, and attempted to show in a preliminary communication that it was possible that the head- as well as the body-louse might be the means of spreading this fever, and supported this conclusion by a report of several inoculation experiments which, though not altogether conclusive in themselves, form at least a strong basis for this opinion.—J. R. C. GREENLEES.

Pathological Changes of the Pharyngeal Mucosa, an Early Symptom of Poliomyelitis. By M. Neustaedter, M.D., Ph.D., New York (*New York Medical Journal*, 14th September, 1912). After acknowledging that we have made great strides in our knowledge of the pathology, mode of infection, contagiousness, and method of entry into the body, the writer goes on to say that we still need a method of diagnosing the condition in the prodromal stage before the onset of the paralysis. For while the cytological findings of the cerebro-spinal fluid are, when positive, quite pathognomonic before the onset of the paralysis, lumbar puncture cannot be resorted to in every case, especially in those in which the onset is mild or masked, as it so often is by gastro-intestinal symptoms. The onset of the paralysis in these cases is so sudden that it comes like a bolt from the blue, when least expected, and that any sign which could give us the least warning would be of the greatest importance.

In searching for a set of symptoms which will prove a guide to further knowledge of the disease, the writer turned to the pathological conditions. These are now recognised as uniform but varying in intensity. The pathological findings are œdema of the cord and brain, a circumcellular and circumvascular exudate which extends from the pial circumvascular lymph spaces into the grey matter, and into the spinal ganglia, and a hyperæmia of the brain and cord.

Hæmorrhages are also spoken of as pathognomonic of this disease. In connection with these facts we must take into consideration the point where the trouble starts, which is in the nasopharynx, and the fact that the patients, being mostly infants, almost invariably swallow the discharges from that region.

Remembering the toxins which the infective agent produces we must realise that the condition is a constitutional one, and that we shall therefore get as one of the prodromal symptoms fever and, considering its sight of entry, we should expect to get signs in the nasopharynx.

These Dr. Neustaedter says have been invariably present in the 52 cases which he has seen in the last two years. He finds that there is not the ordinary condition of redness and hyperæmia of the mucosa of the throat, so common in the other infectious diseases of infancy, but that the pharyngeal mucous membrane is anæmic, glistening, and œdematous, and covered with a frothy serous exudate quite analogous to the œdema of the cord in this condition. This condition appears quite early, and persists even for some weeks after the appearance of the paralysis.

This sign Dr. Neustaedter considers as quite pathognomonic, and, when taken along with the other signs, should give a clear indication of the necessity for lumbar puncture. The other two signs which he lays most stress on are the presence of headache and pain. The former in infants can only be surmised from the fact that although the child is not comatose, and the intellect is always clear, it is giddy and drowsy ; signs of which older children always make some complaint. This he thinks depends on the fact that although there is hyperæmia of the brain and cord there is no increase in the amount of the cerebro-spinal fluid, as there is in meningitis, where coma and loss of intelligence are the rule.

The pain depends on the fact that there is always some infiltration of the spinal ganglia, especially in the lumbar region. As the result of this the children are found with their extremities in a flexed position, and any attempt at extension or passive movement will cause such pain that the patient cries out when approached by the doctor or nurse.

Dr. Neustaedter goes on to say that the latter symptoms of paralysis do not concern us, as they are only too common and easily recognised, but in conclusion emphasises the invariable symptom complex which he has described, and lays special stress on the presence of the signs to be sought and found in the nasopharynx.—J. R. C. Greenlees.

Cardiac Disease and Pulmonary Tuberculosis. By Gilbert Seymour, A.B., M.D., New York (*New York Medical Journal*, 21st September, 1912).—This paper is founded on a report on 126 cases of cardiac disease occurring in a series of 2,151 admissions to the Gouverneur Hospital Tuberculosis Clinic. Of the 126 cases of cardiac disease mentioned above there were 62 occurring in positive tuberculous patients, and 62 in non-tuberculous, while only three occurred amongst those whose pulmonary condition was not diagnosed.

The only interest which attaches to the non-tubercular cases is that they were all sent to the clinic as cases suspected of actual pulmonary tuberculosis, and this fact may be taken to emphasise the well-known difficulty which exists in the diagnosis of certain cases of cardiac disease from pulmonary tuberculosis. This difficulty is specially marked in cases of uncomplicated mitral stenosis, which may have symptoms of cough, hæmoptysis, dyspnœa, and on examination may give moist râles in the chest, not always symmetrically distributed, and not always localised in the bases, which with an inconstant murmur are all signs of pulmonary tuberculosis.

Out of the 2,151 cases there were altogether 519 non-tubercular, and of these 61 or 11·7 per cent were due to a mistaken diagnosis between cardiac disease and pulmonary tuberculosis.

Of 1,232 cases of pulmonary tuberculosis studied, 62 (5 per cent) were complicated by cardiac disease.

The writer has carefully tabulated the different forms of cardiac disease which occurred in both classes, and gives further tables comparing the sex, age, history, and symptoms in the two classes.

A study of these tables shows that the two groups closely resemble one another in almost every particular. The age, history, sex, and symptoms are so similar that no assistance can be got from them in determining whether cardiac disease was or was not complicated by pulmonary tuberculosis. The sole exception seems to be in the case of the symptom of hæmoptysis, for it occurs more frequently in cardiac disease complicated by tuberculosis than in cardiac cases not so complicated.

In conclusion, the writer gives yet another table showing the types of complications which occurred in all the cardiac cases; this, however, only goes to show that pulmonary complications of one sort or another were by far the most common, as only 3 of all the cases studied showed any affection of the other organs.

While admitting that the number of cases is too small to allow of any dogmatic conclusion being drawn, the writer holds that they bring out two significant points, first, that one of the most common errors is that of diagnosing pulmonary tuberculosis in cases of cardiac disease, and second, that the combination of these two conditions is not very unusual, and therefore the recognition of an undoubted cardiac lesion does not preclude the presence of pulmonary tuberculosis.

Another paper founded on these cases is given in the same number of the *Journal*, in which the writer, Dr. Wm. Nairins, M.D., New York, takes the 7 cases of mitral stenosis which occurred in this series complicating the tubercular disease as the foundation for a discussion of the relation of the two diseases to one another, both in regard to the frequency of their occurrence in combination and to the effect of the cardiac lesion on the prognosis in the pulmonary condition. After fully describing the history of the discussion, and giving the full account of the 7 cases in which the two conditions were present in his series, he concludes by saying that as far as the cases which he had under observation went, the evidence points to the conclusion that mitral stenosis, by producing passive congestion, acts in a favourable way on the tuberculous condition in the lungs, and from that we may assume that it is better to try to produce passive congestion in the treatment of pulmonary tuberculosis than active congestion as recommended by Dr. Stow, as the former when obtained by assuming the recumbent position is more permanent and more nearly akin to the passive congestion produced by mitral stenosis.

—J. R. C. GREENLEES.

Books, Pamphlets, &c., Received.

Hygiene for Health Visitors, School Nurses, and Social Workers, by C. W. Hutt, M.A., B.C.Cantab., D.P.H.Oxf. London: T. S. King & Son. 1912. (7s. 6d. net.)

Mind and its Disorders, a Text-Book for Students and Practitioners, by W. H. B. Stoddart, M.D., F.R.C.P. Second edition. With illustrations. London: H. K. Lewis. 1912. (12s. 6d. net.)

Manual of Human Embryology, written by Various Authors. Edited by Franz Keibel and Franklin P. Mall. In two volumes. Vol. II, with 658 illustrations. Philadelphia and London: J. B. Lippincott Company. 1912. (Two vols., £4 net.)

The X-Ray Treatment of Skin Diseases, by Dr. Frank Schultz, translated by James Burnett, M.A., M.D., M.R.C.P.Edin. With 130 illustrations. London: Rebman, Limited. 1912. (12s. 6d. net.)

Pathology and Treatment of Diseases of Women. Fourth edition, rewritten by A. Martin and Ph. Jung. Only authorised English translation, written and edited by Henry Schmitz, M.D. With 187 illustrations, of which 25 in colours. London: Rebman, Limited. 1912. (21s. net.)

Massage and the Original Swedish Movements, by Kurre W. Ostrom. Seventh edition. Revised and enlarged, with 115 illustrations. London: H. K. Lewis. 1912. (3s. 6d. net.)

Extraction of Teeth, by J. A. Gibbs, F.R.C.S., L.R.C.P., L.D.S.Lond. Edinburgh: E. & S. Livingstone. 1912. (7s. 6d. net.)

Mother and Baby: Outlines for a Young Mother on the Care of Herself and Her Baby, by Selina T. Fox, M.D., B.S. With 29 illustrations. London: J. & A. Churchill. (1s. 6d. net.)

Malingering and its Detection, under the Workmen's Compensation and other Acts, by Archibald M'Kendrick, F.R.C.S.E. Edinburgh: E. & S. Livingstone. 1912. (1s. 6d. net.)

Materia Medica and Pharmacy, for Medical Students, with an Appendix on Incompatibility, by Reginald R. Bennett, B.Sc.Lond., F.I.C. Second edition. London: H. K. Lewis. 1912. (4s. 6d. net.)

Aids to the Diagnosis and Treatment of Diseases of Children, by John M'Caw, M.D., R.W.I., L.R.C.P.Edin. Fourth edition. London: Baillière, Tindall & Cox. 1912. (Cloth, 4s. net; paper, 3s. 6d. net.)

The Teratology of Fishes, by James F. Gemmill, M.A., M.D., D.Sc. Glasgow: James MacLehose & Sons. 1912. (15s. net.)

Perfect Health for Women and Children, by Elizabeth Sloan Chesser, M.B., Ch.B. London: Methuen & Co., Limited. 1912. (3s. 6d. net.)

A System of Surgery, edited by C. C. Choyce, B.Sc., M.D., F.R.C.S. Pathological editor, J. Martin Beattie, M.A., M.D., C.M. In three volumes. Vol. II, with 18 coloured plates, 8 black and white plates, and 375 illustrations in the text. London: Cassell & Co., Limited. 1912. (21s net.)

Medical Benefit: A Study of the Experience of Germany and Denmark, by J. G. Gibbon, B.A., D.Sc. London: T. S. King & Son. 1912. (6s. net.)

The Blood of the Fathers: A Play in Four Acts, by G. Frank Lydston. Chicago: The Riverton Press. 1912.

Life of Sir William Tennant Gairdner, K.C.B., M.D., LL.D., F.R.S., by George Alexander Gibson, M.D., Sc.D., LL.D. With a selection of Papers on General and Medical Subjects. Glasgow: James MacLehose & Sons. 1912. (10s. 6d. net.)

GLASGOW.—METEOROLOGICAL AND VITAL STATISTICS FOR THE FOUR WEEKS ENDED 16TH NOVEMBER, 1912.

	Week ending			
	Oct. 26.	Nov. 2.	Nov. 9.	Nov. 16.
Mean temperature, . .	40·8°	45·6°	48·6°	42·7°
Mean range of temperature between highest and lowest,	12·8°	10·6°	8·1°	9·0°
Number of days on which rain fell, ...	4	4	4	4
Amount of rainfall, . ins.	0·57	1·04	0·68	0·41
Deaths registered, . . .	246	264	232	266
Death-rates, ...	16·3	17·5	15·4	17·8
Zymotic death-rates, . .	0·9	0·9	0·5	0·7
Pulmonary death-rates, .	3·7	5·0	4·1	5·0
DEATHS—				
Under 1 year, . . .	35	58	47	75
60 years and upwards, .	60	59	52	46
DEATHS FROM—				
Small-pox, ...	...	...	...	...
Measles, ...	...	1	3	...
Scarlet fever, . . .	1	1	1	2
Diphtheria, . . .	5	4	2	5
Whooping-cough, . .	7	7	2	3
Enteric fever, ...	...	...	...	1
Cerebro-spinal fever, . .	1	...	...	1
Diarrhœa (under 2 years of age),	6	6	3	5
Bronchitis, pneumonia, and pleurisy, . . .	47	62	50	76
CASES REPORTED—*				
Small-pox, ...	...	...	...	...
Cerebro-spinal meningitis, .	...	1	1	...
Diphtheria and membranous croup, ...	38	35	47	61
Erysipelas, . . .	27	29	43	43
Scarlet fever, ...	76	65	107	98
Typhus fever, ...	1	...	...	...
Enteric fever, ...	2	1	3	3
Phthisis, ...	40	34	125	56
Puerperal fever, . . .	3	4	7	4
Measles,†	97	104	69	144

* Includes those in added area since 5th November.

† Measles not notifiable.

SANITARY CHAMBERS,
GLASGOW, *26th November*, 1912.

INDEX.

Abstracts from Current Medical Literature—
  Diseases of children, 316.
  Diseases of the ear, 153.
  Diseases of the eye, 77, 318.
  Diseases of the skin, 237.
  Gynæcology and obstetrics, 75, 393.
  Materia medica and therapeutics, 396.
  Medicine, 72, 150, 235, 314, 390, 465.
  Public health and infectious diseases, 155.
  Surgery, 75, 392.

Acetone bodies in the urine, 235.
Acidosis index, 235.
Addison's disease, treated by transplantation of suprarenal gland, 390.
Adenosarcoma of kidney, 211.
Aitken, A. B.—Case of doubling of great intestine, 431.
  insertion of rectus abdominis, 171.
Albumen-reaction of sputum in pulmonary tuberculosis. R. S. Fullarton, 8.
Allan, J. W.—Sanatorium treatment of pulmonary tuberculosis, 333.
Anæmia, infantile splenic, of aplastic type, 452.
Anæsthesia, ether, by intravenous infusion. F. L. Napier, 33.
Angeioma of face and palate, 59.
Ankylostoma anæmia and thymol, 396.
Antityphoid vaccination in U.S. Army, 396.
Appendicitis, 300 consecutive cases of. Sir G. T. Beatson, 321.
Arneth's nucleo-analytical method as applied to the eosinophiles, 72.
Arseno benzol ("606") causing ocular troubles, 77.
Auricular fibrillation and heart-block, 235.

Beatson, Sir G. T.—Three hundred consecutive cases of appendicitis, 321.
Bed-isolation of infectious disease, 157.
Blood, tubercle bacilli in, 315.
Boas' modification of Wassermann's reaction, 209.
Bone-grafting, 392.
Brill's disease, indentical with typhus, 465.
Bronchus, carcinoma of, in tubercular lung. M. M'Intyre, 95.
Brownlee, J.—Syringomyelia following enteric fever, 350.

Cancer, Ascoli-Izar reaction, 209.
  of cervix, in midwifery practice, 394.
  of throat treated by radium. J. S. M'Kendrick and J. H. Teacher, 241.
  soft, of body of uterus, 456.
Carcinoma of bronchus, in tubercular lung. M. M'Intyre, 95.
  of uterus, 420.
Cardiac disease and pulmonary tuberculosis, 467.
Carotid, tortuous, 58.
Carrel's experiments, 314.
Cervix, cancer, in midwifery practice, 394.
Chloroform, effects of. G. H. Clark, 15.
Cholecystostomy *versus* cholecystectomy, 75.
Chvostek's sign, 390.
Clark, G. H.—Effects of chloroform, 15.
Compression of lung in pulmonary tuberculosis, 398.
Conjunctivitis, gonococcal, treatment of, 77.
Contusional pneumonia. J. W. Mathie, 169.
Corneal tissue, regeneration of, 78.
Craig, J.—Some phases of articular and muscular rheumatism, 249.

Current Topics—
  Appointments, 38, 100, 193, 280, 359, 435.
  Royal Infirmary, completion of central block, 38.
  Glasgow Obstetrical and Gynæcological Society, 39.
  Birthday honours, 39.
  R.A.M.C. (T.F.) Glasgow Units, 39.
  King Edward Memorial in Scotland, 40.
  Women's Imperial Health Association, 41.
  Higher flights in surgery, 43.
  Operations in private practice, 44.
  Practical significance of physiology, 46.
  Sun Yat Sen and the Awakening of China, 46.
  Monthly review of medical literature, 47.
  Seventeenth International Congress of Medicine, 1913, 47.
  American Proctologic Society, 47.
  Royal Infirmary, post-graduate classes, 100.
  Western Infirmary, post-graduate courses, 100.
  Glasgow Obstetrical and Gynæcological Society, 100.
  Presentation to Dr. D. J. Mackintosh, M.V.O., 101.
  Medical recipients of honorary degrees, 101.

Current Topics (*continued*)—
  Lister memorial, 103.
  R.A.M.C. (T.F.), 104.
    annual camps, 105.
  Medical study tour, 106.
  Administration of sanatorium benefit, 107.
  Sir J. D. Hooker—commemoration day oration, 193.
  University of Liverpool, honorary degrees, 196.
  Bi-centenary of Trinity College, Dublin, 197.
  Census, 1911: Report on Glasgow, 198.
  The daily tub, 199.
  British Dental Association conference, 201.
  R.A.M.C. (T.F.) Glasgow Units, 203.
  Cerebral decompression, 203.
  Medical education in Europe, 204.
  Synthetic india rubber, 205.
  Book announcements, 206.
  Glasgow Medical School, 275.
  Army Medical Service of Territorial Force, 280.
  Chinese decoration for Dr. R. A. Young, 280.
  Reconstruction of Royal Infirmary, 281.
  Western Infirmary and insured persons, 282.
  Professor Schäfer on the origin of life, 282.
  The ancestry of man, 284.
  Hospitals and the State, 285.
  Dangers of street trading, 286.
  Notification of pulmonary tuberculosis, 288.
  Medical sciences in Great Britain and France, 289.
  Dental caries and its prevention, 290.
  Medical graduation list, 358.
  Victoria Infirmary, 359.
  St. Andrew's Ambulance Association: twenty-ninth annual report, 359.
  Alvarenga prize, Philadelphia, 360.
  Life of Sir W. T. Gairdner, K.C.B., 361.
  National Insurance medical benefit: Government's proposals, 362.
  Medical societies of Glasgow: lists of office-bearers, 364.
  Morbidity of childbed, 366.
  Registrar-General's fifty-sixth annual report, 366.
  Scientific reading for the public, 367.
  Smoke abatement and ventilation, 369.
  Literary note, 371.
  Royal Faculty of Physicians and Surgeons, tribute to late Dr. Hill, 435.
  Western Infirmary: retirement of Mr. Henry Johnston, 436.
  University of Toronto: opening address by Sir H. Cameron, 437.
  Scottish Red Cross Unit, 438.
  National Insurance: Government's offer to medical profession, 439.
  Administrative treatment of tuberculosis, 439.
  Insanity in Glasgow, 440.
  Gartloch Asylum, fifteenth annual report, 442.
  Medical and Dental Defence Union of Scotland, tenth annual report, 445.
  International Physiological Congress at Groningen, 446.
  Was Shakespeare a syphilitic? 446

Cysts, ovarian, 455.

Deaf, oral education of, 77.
Doubling of great intestine. A. B. Aitken, 431.
Downie, W.—Fracture of larynx, 161.
Duff, D.—Retro-peritoneal sarcoma, [illegible].
Duodenal and gastric ulcer, one thousand cases, 391.
Dystocia and retraction ring, 125.

Elephantiasis in this country. W. K. Hunter, 166.
Endothelioma. W. K. Hunter and J. H. M'Nicol, 1.
Enteric fever followed by syringomyelia. J. Brownlee, 350.
Ether anæsthesia by intravenous infusion. F. L. Napier, 33.
Ethmoidal disease and brain abscess, 61.
Exophthalmos, unilateral, in Graves' disease, 315.
  voluntary intermittent, 318.
Extractor, vacuum, in midwifery, 393.

Fibroids and Roentgen rays, 394.
Fracture of larynx. W. Downie, 161.
Fractures, depressed, of skull, in new-born, 393.
Fullarton, R. S.—Albumen-reaction of sputum in pulmonary tuberculosis, 8.

Gastric and duodenal ulcer, 1,000 cases, 391.
Glandular enlargement—Hodgkin's disease, endothelioma. W. K. Hunter and J. H. M'Nicol, 1.
Glasgow, medical life in old. H. M'Lean, 172.
Gonococcal conjunctivitis, treatment of, 77.
Gonococcus infections, chronic. D. Watson, 261.
Grafting, bone, 392.
  ovarian, 123.
Graves' disease, unilateral exophthalmos in, 315.

Hæmangeioma and lipoma, multiple, 237.
Hæmoglobinuria, paroxysmal, 392.
Heart-block and auricular fibrillation, 235.
Hexamethylenamin in systemic infections, 397.
Hodgkin's disease. W. K. Hunter and J. H. M'Nicol, 1.
Hunter, W. K.–Elephantiasis in this country, 166.
  and J. H. M'Nicol.—Note on two cases of glandular enlargement—Hodgkin's disease and endothelioma, 1.

Infarction of myocardium, 150.
Infectious disease, isolation of, 157.
Insular sclerosis, 207.
Internal secretions and islets of Langerhans, 150.
Intestine, doubling of great. A. B. Aitken, 431.
  large, multiple tumours of, 75.
  perforation of, paracentesis abdominis, 73.
Intracranial and otitic diseases, 154.
Ischæmic paralysis, 21[illegible].
Isolation of infectious disease, 157.

KIDNEY, adenosarcoma of, 211.

LARYNX, direct examination of, 60.
  fracture of. W. Downie, 161.
Lepto-meningitis, serous, cured by operation, 153.
Lipoma and hæmangeioma, multiple, 237.
Little's disease, etiology of, 73.

M'INTYRE, M.—Carcinoma of bronchus, in tubercular lung, 95.
M'KENDRICK, J. S., and J. H. TEACHER.—Cancer of the throat treated by radium, 241.
M'LEAN, H.—Medical life in old Glasgow, 172.
MACLENNAN, A.—"Tunnel" skin-grafting, 86.
Maternity and parathyroids, 76.
MATHIE, J. W.—Contusional pneumonia, 169.
Medical life in old Glasgow. H. M'Lean, 172.

MEDICO-CHIRURGICAL SOCIETY: TRANSACTIONS OF—
  FINDLAY, L.—Case of Thomsen's disease, 48.
  HUNTER, Prof.—Elephantiasis in this country, 50.
    and J. H. M'NICOL.—Glandular enlargement, 50.
  WILSON, J. A.—Keratitis as a cause of myopia, 50.
  MONRO, T. K., and MADGE ROBERTSON.—Insular sclerosis, 207.
  FRASER, E. T.—Ascoli-izar reaction in cancer, 209.
  M'INTYRE, M.—Carcinoma of bronchus in tubercular lung, 209.
  CAMPBELL, J. A.—Boas' modification of the Wassermann reaction in syphilis, 209.
  ROBERTSON, MADGE E.—Cysts of posterior root ganglia, 210.
  TEACHER, Prof., J. R. RIDDELL, K. M. CHAPMAN, A. M. KENNEDY, J. A. ADAMS, D. DUFF, M. E. ROBERTSON, and A. G. BANKS, specimens, 210-211.
  FULLARTON, R. S.—Adenosarcoma of kidney, 211.
  RENTON, J. M.—Volkmann's ischæmic paralysis after operative treatment, 213.
  WATSON, D.—Diagnosis of chronic gonococcus infection, 215.
  SYME, W. S.—Examination of 1,050 skulls in connection with surgery of ear and nose, 215.
  MONRO, T. K.—Splenomegaly, &c., 293.
  DOWNIE, W.—Fracture of larynx, 293.
  KENNEDY, Prof.—Paralysis treated by operation, 451.
  HUNTER, Prof.—Sclerodermia, 452.
    infantile splenic anæmia of aplastic type, 452.
  EDINGTON, G. H.—Two unusual cases of spina bifida, 454.

MORTON, J.—Stricture of œsophagus, 267.
Myocardium, infarction of, 150.

NAILS, deformity of, and hereditary absence of patellæ, 316.
NAPIER, F. L.—Ether anæsthesia by intravenous infusion, 33.
Nares, posterior, bony occlusion of, 61.
Necrosis of vertebræ, post-scarlatinal. D. F. Riddell, 428.
New preparations, &c., 118, 292, 372.
Nose, ulceration of, 59.

OBITUARY
  Addison, W. I., 356.
  Evans, U. W., 274.
  Forrest, J., 356.
  Hill, W. H., 356.
  Howie, J. C., 355.
  Kirkwood, T., 192.
  Knight, J., 274.
  M'Birnie, S., 193.
  M'Ilroy, J., 191.
  M'Millan, J. M., 37.
  Miller, J., 192.
  Ness. W. F., 37.
  Paton, R. A., 435.

OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY: TRANSACTIONS OF—
  RUSSELL, A. W.—Specimens, 50.
  STARK, N.—Specimens, 50.
  MARSHALL, G. B.—Specimens, 50.
  KERR, Professor MUNRO.—Specimens, 51.
  MACFARLANE, W. D., Jr.—Specimens, 51.
  Puerperal infection, adjourned discussion on.—G. B. Marshall, W. D. Macfarlane, Jr., Munro Campbell, W. Ritchie, A. W. Russell, 51.
  MARSHALL, G. B.—Specimens, 120.
    ovarian cystoma with torsion, at sixth month of pregnancy, 121.
    bilateral ovarian cystoma with symptoms simulating torsion, 122.
  M'ILROY, A. L.—Ovarian grafting, 123.
  SHANNON, D.—Retraction ring as a cause of dystocia, 125.
  RUSSELL, A. W., W. D. MACFARLANE, Jr., D. SHANNON, and A. L. M'ILROY.—Specimens, 216.
  RUSSELL, A. W.—Ovarian pain, 216.
  MACFARLANE, W. D., Jr.—Pyelitis complicating pregnancy, 217.
  RUSSELL, A. W.—Specimens, 455.
  MACFARLANE, W. D., Jr.—Specimens, 456.
  RITCHIE, W.—Specimens, 456.
  LINDSAY, J.—Presidential address, 457.
  RUSSELL, A. W.—Visit to international congress in Berlin, 457.

Ocular troubles attributed to arsenobenzol ("606"), 77.
Œsophagus, stricture of. J. Morton, 267.
Otitic and intracranial diseases, 154.

OTOLOGICAL AND LARYNGOLOGICAL SOCIETY, SCOTTISH: TRANSACTIONS OF—
  LOVE, J. K.—Oral method of educating the deaf, 57.
  FRASER, J. S.—Lantern demonstration of inner ear, 58.
  GRAY, A. A.—Lantern demonstration of otosclerosis, 58.
  LOVE, J. K.—Cerebral and cerebellar abscess, 59.
    malignant disease of external ear, 59.

- Otological and Laryngological Society, Scottish: Transactions of (*continued*)—
  - Adam, J.—Swelling of upper jaw: tortuous carotid in pharyngeal wall: artificial widening of nasal passages, 59.
  - Grant, P. N.—Ulceration of nose, 59.
  - Downie, W.—Venous angeioma of face and palate, 59.
  - Connal, J. G.—Sinus thrombosis: auditory exostosis, 60.
  - Kelly, A. B. Direct laryngeal examination, 60.
    - gonococcal infection of nose, 61.
  - Syme, W. S.—Bony occlusion of posterior nares, 61.
    - congenital fenestration of faucial pillars: cerebral abscess and meningitis from ethmoidal and sphenoidal disease, 61.

- Otosclerosis, 58.
- Ovarian cystoma, 121, 122.
  - cysts, 455.
  - grafting, 123.
  - pain. A. W. Russell, 81.
- Ovary and tube, torsion of, 393.

- Pain, ovarian. A. W. Russell, 81.
- Pancreas, and internal secretions, 150.
- Paracentesis abdominis, perforation of intestine during, 73.
- Paralysis treated by operation, 451.
- Parathyroids and maternity, 76.
- Paroxysmal hæmoglobinuria, 392.
  - tachycardia, 235.
- Patellæ, hereditary absence of, and deformity of nails, 316.
- Perforation of intestine during paracentesis abdominis, 73.
- Pharyngeal mucosa in poliomyelitis, 466.
- Placenta, premature separation of normally inserted, 395.
- Poliomyelitis, acute, a clinical study, 156.
  - and pharyngeal mucosa, 466.
- Polypi of cervix, 120.
- Pneumonia, contusional. J. W. Mathie, 169.
- Pregnancy, pyelitis complicating, 217.
  - pernicious vomiting of. J. W. Williams, 401.
- Puerperal infection, 51.
  - mortality, 76.
- Pulmonary tuberculosis and cardiac disease, 467.
  - sanatorium treatment of. J. W. Allan, 333.
  - treatment by compression of lung, 398.
- Pyelitis complicating pregnancy, 217.

- Radium in cancer of throat. J. S. M'Kendrick and J. H. Teacher, 241.
- Rectus abdominis, insertion of. A. B. Aitken, 171.
- Regeneration of corneal tissue, 78.
- Retina, separation of, injections of sterilised air into vitreous, 319.
- Retraction ring and dystocia, 125.
- Retroperitoneal sarcoma. D. Duff, 90.

- Reviews
  - Adams, P. H.—Pathology of eye, 305.
  - Allen, R. W.—Journal of vaccine therapy, 64.

- Reviews (*continued*)—
  - Barber, H. V.—Tuberculin treatment of consumption, 305.
  - Binnie, J. F.—Manual of operative surgery, fifth edition, 221.
  - Bolam, J., and W. E. Alderson.—Dental anæsthetics, 306.
  - Boyle, H. E. G.—Practical anæsthetics, second edition, 306.
  - Bruce, J. M., and W. J. Dilling.—Materia medica and therapeutics, ninth edition, 233.
  - Byrne, J.—Physiology of semicircular canals and their relation to sea-sickness, 296.
  - Candy, H. C. H.—Physics for medical students, 136.
  - Cathcart, E. P.—Physiology of protein metabolism, 293.
  - Chesser, Eliz. S.—Perfect health for women and children, 460.
  - Cheyne, Sir W. W., and F. F. Burghard.—Manual of surgical treatment, new edition, vols. i and ii, 222.
  - Clarke, J. J.—The cause of cancer, 233.
  - Clouston, T. S.—Unsoundness of mind, 130.
  - Coleman, F., and H. Hilliard.—Anæsthetics in dental surgery, 306.
  - Colyer, J. F., and S. Colyer.—Dental disease in relation to general medicine, 70.
  - Crowe, H. W.—Consumption, third edition, 68.
  - Dickey, J. S.—Applied anatomy of lungs and pleural membranes, 143.
  - Denslow, L. N.—Surgical treatment of locomotor ataxia, 127.
  - Dental examination questions, R.C.S.Ed. and R.F.P.S.G., 301.
  - Douglas, L. M.—Bacillus of long Life, 145.
  - Ernst, O.—Dolls, dead and alive (translated by A. C. Caton), 145.
  - Fellowship examination papers for R.C.S.Ed., 301.
  - Fernie, W. T.—Health to date, 136.
  - Forbes, J. G.—Pollution of swimming baths, 384.
  - Fraser, Eliz. T.—Manual of immunity, 458.
  - French, H.—Index of differential diagnosis of main symptoms, by various writers, 227.
  - Green, C. E.—Local incidence of cancer, 383.
  - Harden, A.—Alcoholic fermentation, 63.
  - Harris, A.—Pulmonary phthisis, 464.
  - Herbs, the feast of, 146.
  - Hertz, A.—Sensibility of the alimentary canal, 71.
  - Hilger, W.—Hypnosis and suggestion (translation by R. W. Felkin); introduction by van Renterghem (translated by A. Newbold), 381.
  - Hirschberg, Prof. J.—Treatment of short-sight (translated by G. L. Johnson), 231.
  - Hurry, J. B.—Vicious circles in disease, 147.
  - Hutchison, R., and H. S. Collier.—Index of treatment, sixth edition, 142.
    - and H. Rainy.—Clinical methods, fifth edition, 231.
  - Jack, W. R.—Wheeler's handbook of medicine, fourth edition, 220.

- Reviews (*continued*)—
  - Journal of hygiene: plague supplement i, 463.
  - Kerr, C. B.—Manual of fevers, 148.
  - Knight, C. F.—Life, species, and neoplasms, 464.
  - Lapage. C. P.—Feeble-mindedness in children of school age, 69.
  - Lewis, T.—Clinical disorders of the heart, 310.
  - Lowry, E. B.—Talks with women concerning themselves, &c., 462.
  - M'Donagh, J. E. R.—Salvarsan in syphilis and allied diseases, 382.
  - M'Kail, D.—Public health, chemistry, and bacteriology, 224.
  - Mackenzie, J.—Symptoms and their interpretation, second edition, 131.
  - M'Kisack, H. L.—Systematic case-taking, 301.
    - dictionary of medical diagnosis, 134.
  - Mark, L. P.—Acromegaly, 131.
  - Martindale, W. H., and W. W. Westcott.—Extra pharmacopœia, fifteenth edition, 302.
  - Mennell, J. B.—Treatment of fractures, 146.
  - Mercier, C. A.—Conduct and its disorders, 299.
    - crime and insanity, 225.
  - Mitchell, P. C.—Outlines of biology, third edition (revised by G. P. Mudge), 149.
  - Mortimer, J. D.—Anæsthesia and analgesia, 306.
  - Mulzer, P.—Therapy of syphilis, preface by Professor Uhlenhuth (translated by A. Newbold), 312.
  - Murrell, W.—What to do in cases of poisoning, 229.
  - New and non-official remedies, 1912, 303.
  - Opie, E. L.—Diseases of the pancreas, second edition, 68.
  - Osler, Sir W., and T. M'Crae.—Principles and practice of medicine, eighth edition, 373.
  - Paget, S.—For and against experiments on animals (introduction by Lord [illegible]
  - [illegible] Auto-inoculation in pul- [illegible]
  - [illegible] n hospitals, [illegible]
  - [illegible] Harrison.— [illegible]
  - Practical medicine series, vol. i, 1912 (edited by F. Billings and J. H. Salisbury), 389.
  - Report (fourth) of Wellcome Tropical Research Laboratories, Gordon College, Khartoum: also supplement to above, 65.
  - Reports, Guy's Hospital, vol. lxv, 139.
    - Philadelphia General Hospital, vol. viii, 386.
    - St. Bartholomew's Hospital, vol. xlvii, 385.
  - Romer, F., and L. E. Creasy.—Bone-setting, 148.
  - Sherlock, E. B.—The feeble-minded, 128.
  - Short, A. R.—The new physiology in surgical and general practice, 135.
  - Smith, J. K.—Lateral curvature and flat feet, 144.
  - System of surgery (edited by C. C. Choyce and J. M. Beattie), vol. i, 297.
- Reviews (*continued*)—
  - Thomson, StC.—Diseases of nose and throat, 376.
  - Tidswell, H. H.—Tobacco habit, 133.
  - Transactions of American Surgical Association, vol. xxix, 387.
  - Tubby, A. H.—Deformities, including diseases of bones and joints, second edition, 374.
  - Turner and Porter.—Skiagraphy of accessory nasal sinuses, 228.
  - Vaccination, pros and cons, 141.
  - Verhandlungen der Berliner Med. Gesellschaft, 1911, 388.
  - Walsh, D.—Golden rules of skin practice, fourth edition, 313.
  - Whitla, Sir W.—Dictionary of treatment, fifth edition, 229.
  - Wilkinson, W. C.—Tuberculin in the diagnosis and treatment of tuberculosis, 303.
  - Wright, Sir A. E.—Vaccine therapy (Proceedings of Royal Society of Medicine), 64.
  - Wyllie, J.—Meningitis, sinus thrombosis, and abscess of brain, 376.
  - Year book of scientific and learned societies of Great Britain and Ireland, 147.

- Rheumatism, articular and muscular, some phases of. J. Craig, 249.
- Riddell, D. F.—Necrosis of vertebræ following scarlet fever, 428.
- Roentgen rays and uterine fibroids, 394.
- Root-ganglia, posterior, cysts of, 210.
- Russell, A. W.—Ovarian pain, 81.

- Sanatorium treatment of pulmonary tuberculosis. J. W. Allan, 333.
- Sarcoma, retroperitoneal. D. Duff, 90.
  - and mixed tumours of uterus, 75.
- Scarlet fever, housing and isolation, 155.
  - necrosis of vertebræ after. D. F. Riddell, 428.
- Scurvy, experimental, 317, 318.
- Skin-grafting, "tunnel." A. MacLennan, 86.
- Skull, treatment of depressed fractures in new-born, 393.
- Sphenoidal disease and brain abscess, 61.
- Sputum, albumen-reaction in pulmonary tuberculosis. R. S. Fullarton, 8.
- Stapes, fixation of, detection, 153.
- Statistics, Glasgow meteorological and vital, 80, 160, 240, 320, 400, 470.
- Strabismus, congenital vertical, 319.
- Stricture of œsophagus. J. Morton, 267.
- Suprarenal gland, transplantation for Addison's disease, 390.
- Syringomyelia following enteric fever. J. Brownlee, 350.

- Tachycardia and auricular fibrillation, 235.
- Thomsen's disease, 48, 236.
- Throat, cancer, treated by radium. J. S. M'Kendrick and J. H. Teacher, 241.
- Thymol in ankylostoma anæmia, 396.
- Torsion of normal tube and ovary, 393.
- Tube and ovary, torsion of, 393.
- Tubercle bacilli in blood, 315.
- Tuberculosis, pulmonary, albumen-reaction of sputum in. R. S. Fullarton, 8.
  - and cardiac disease, 467.

Tuberculosis, pulmonary, treatment by compression of lung, 398.
  sanatorium treatment of. J. W. Allan, 333.
"Tunnel" skin-grafting. A. MacLennan, 86.
Typhus and Brill's disease, 465.

ULCER of stomach and duodenum, 1,000 cases, 391.
Urea, influence of, on blood and milk of suckling women, 317.
Urine, acetone bodies in, 235.
Uterine fibroids and Roentgen rays, 394.
Uterus, soft cancer of body, 456.
Uterus, carcinoma of, 120.
  sarcoma and mixed tumours of, 75.

VACCINATION, antityphoid, in U.S. army, 396.
Vacuum extractor in midwifery, 393.
Vertebral necrosis, post-scarlatinal. D. F. Riddell, 428.
Vomiting, pernicious, of pregnancy. J. W. Williams, 401.

WATSON, D.—The diagnosis of chronic gonococcus infections, 261.
WILLIAMS, J. W.—Further contributions to our knowledge of pernicious vomiting of pregnancy, 401.

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